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TEST-27

TEST BOOKLET

Test Booklet Series

C

GENERAL STUDIES (P) 2022 – Test – 3496

Time Allowed: Two Hours **Maximum Marks: 200**

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS BOOKLET DOES **NOT** HAVE ANY UNPRINTED OR TURN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.

2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D** AS THE CASE MAY BE IN THE APPROPRIATE PLACE IN THE ANSWER SHEET.

3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **Do NOT** write anything else on the Test Booklet.

4. This Test Booklet contains **100** items (Questions). Each item is printed in **English & Hindi.** Each item comprises four responses (answers). You will select the response which you want to mark on the Answer Sheet. In case you feel that there is more than one correct response with you consider the best. In any case, choose **ONLY ONE** response for each item.

5. You have to mark all your responses ONLY on the separate Answer Sheet provided. See direction in the answers sheet.

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6. All items carry equal marks. Attempt all items. Your total marks will depend only on the number of **correct responses** marked by you in the answer sheet. For **every incorrect** response **1/3rd of the allotted marks** will be deducted.

7. Before you proceed to mark in the Answer sheet the response to various items in the Test booklet, you have to fill in some particulars in the answer sheets as per instruction sent to you with your Admission Certificate.

8. After you have completed filling in all responses on the answer sheet and the examination has concluded, you should hand over to Invigilator only the answer sheet. You are permitted to take away with you the Test Booklet.

9. Sheet for rough work are appended in the Test Booklet at the end.

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1. In the context of astronomy, with reference to earth, a Quasi Satellite is an

(a) object that orbits the Sun with orbital period similar to that of the Earth.

(b) object that orbits the Earth with orbital period similar to that of the Moon.

(c) object that was once part of Earth but now orbits Earth.

(d) object that was once part of Moon but now orbits Earth.

2. Which of the following are included in the Sovereign External Debt of India?

1. Borrowings from the IMF
2. NRI Deposits
3. External liabilities of RBI
4. FII investment in Government Securities

Select the correct answer using the code given below.

(a) 1 and 2 only

(b) 2 and 3 only

(c) 3 and 4 only

(d) 1 and 4 only

3. Which of the following Buddhist Mahavihara were founded by Pala rulers?

1. Nalanda
2. Vikramshila
3. Somapura
4. Odantapuri

Select the correct answer using the code given below.

(a) 1 and 2 only

(b) 1 and 3 only

(c) 2, 3 and 4 only

(d) 1, 2, 3 and 4

4. This is a small mammal belonging to the family Viverridae. It can be found in southern and south eastern Asia. Their long, stocky body is covered with coarse, shaggy hair that is usually grey in colour. It is thought to lead a solitary lifestyle, except for brief periods during mating. Recently it has been seen in the Satkosia Tiger Reserve (STR) in Odisha after 129 years.

The above mentioned paragraph refers to which of the following?

(a) Common Palm Civet

(b) Pygmy Hog

(c) Indian Grey Mongoose

(d) Suncus

5. With reference to Collective Investment Scheme (CIS), consider the following statements:

1. In India, the definition of CIS includes mutual funds and unit trust schemes.
2. CISs are regulated by the Reserve Bank of India.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

6. In the context of the functioning of the Parliament of India, which of the following has/have ***not*** provided in the Constitution?

1. Question hour
2. Selection of Lok Sabha Speaker
3. Joint Sitting

Select the correct answer using the code given below.

(a) 1 only

(b) 1 and 3 only

(c) 2 only

(d) 1, 2 and 3

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7. With reference to the Indian National Congress consider the following statements:

1. At the time of the Indian National Congress formation, Lord Dufferin was the Viceroy of British India.
2. The last session of Congress before independence was held at Calcutta.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

8. Which of the following statements is/are correct regarding the Speaker of Lok Sabha?

1. He is the head of the Lower House of Parliament.
2. He lays down the guidelines to recognize the Leader of Opposition in Lok Sabha.
3. He is the chairman of the budget committee that approves the budget proposals of the secretariat.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 only
(c) 2 and 3 only
(d) 1 only

9. With respect to Zonal Councils, consider the following statements:

1. These Councils were created on the recommendation of State Reorganization Commission headed by Fazl Ali.
2. These Councils shall meet at least thrice in a year.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

10. Consider the following statements:

1. In his Young India published in 1916, this Extremist leader used the safety-valve theory to attack the Moderates in Congress.
2. He argued that 'the Congress was started more with the object of saving the British Empire from danger than with that of winning political liberty for India.

Who among the following freedom fighter is being described in the above statements?

(a) Bal Gangadhar Tilak
(b) Lala Lajpat Rai
(c) Bipin Chandra Pal
(d) Sri Aurobindo

11. The Western Cordillera mountain range is associated with which of the following continents?

(a) North America
(b) Asia
(c) Europe
(d) Australia

12. Consider the following statements:

1. An indicator species is a species chosen as a proxy for the state of an ecosystem.
2. A ruderal species is a plant species that is the first to colonize disturbed lands.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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13. Consider the following statements with reference to All India States' People's Conference (AISPC):

1. It was founded in 1927 to coordinate political activities in the different states.
2. It was formed by Indian National Congress.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

14. Iron-Air batteries are considered a breakthrough in battery technology. In this context, consider the following statements about Iron-Air batteries:

1. While charging this battery converts rust to iron.
2. It can store electricity for up to 100 hours.
3. Electrolyte used in this battery is air.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

15. Consider the following statements with reference to the Domestic Systemically Important Banks (D-SIB) in India:

1. D-SIB framework is based on the assessment conducted by Basel Committee on Banking Supervision.
2. The size of the bank is given the maximum weightage in the assessment methodology.
3. No Foreign banks have been recognized as Domestic Systemically Important Banks in India.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) 2 and 3 only
(d) None

16. Consider the following statement regarding the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act 2001, recently seen in the news.

1. This law was enacted to give effect on Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).
2. The act allows farmers to plant, grow, exchange, and sell a registered new variety of crops, including branded seeds.
3. A National Gene Fund shall be constituted under the act for strengthening the capability of the Panchayat in carrying out genetic conservation.

Which of the statement(s) given above is/are correct?

(a) 1, 2 and 3
(b) 1 and 3 only
(c) 1 and 2 only
(d) 2 only

17. Recently, the Prime Minister of India led the tributes to freedom fighter Velu Nachiyar on her 292nd birth anniversary. With reference to Rani Velu Nachiyar, which of the following statements is/are correct?

1. She was the first queen to wage a war against the East India Company.
2. She formed an alliance with Tipu Sultan against the British in 1780.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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18. With reference to the Non-Cooperation Movement consider the following statements:

1. Council election boycott was a complete failure.
2. Economic boycott was intense and successful.
3. Working-class participation was negligible.

Which of the statements given above is/are ***not*** correct?

(a) 1 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

19. Which of the following come under the category of Persistent Organic Pollutants (POPs) as defined by Stockholm Convention?

1. Polycyclic aromatic hydrocarbons (PAHs)
2. Dichlorodiphenyltrichloroethane (DDT)
3. Polychlorinated biphenyls

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

20. In the context of International relations, the term "de-hyphenation" is related to

(a) Maintaining independent diplomatic relations with two countries having hostile relations with each other.
(b) Differentiating the political relationship between two countries from their cultural relationship.
(c) Prioritizing the economic relation between countries based on emerging new world order amidst the CoVID-19 pandemic.
(d) People to people participation to solve geopolitical problems.

21. Consider the following pairs:

Soil		***Characteristic***
1. Inceptisols	:	Soils with permafrost
2. Gelisols	:	Soils formed in volcanic ash
3. Mollisols	:	Soils of grassland ecosystems

Which of the pairs given above is/are correctly matched?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) None

22. In Chemistry, a pH scale is used to measure the acidity or basicity of aqueous or other liquid solutions. In this context, arrange the following in decreasing order of pH.

1. Lemon Juice
2. Milk of Magnesia
3. Caustic Soda

Select the correct answer using the code given below.

(a) 3-1-2
(b) 3-2-1
(c) 2-1-3
(d) 1-2-3

23. Which one of the following statements is ***not*** correct regarding India's federal system?

(a) It is an indestructible Union of destructible states.
(b) There is no equality of representation of states in the Council of States.
(c) The Indian federal system is based on the United States of America (USA) model of federation.
(d) The Constitution of India converts the federal into a unitary one without a formal amendment of the Constitution during emergency.

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24. Arrange the early political associations in chronological order of their formation.

1. East India Association
2. Poona Sarvajanik Sabha
3. The British Indian Association
4. Madras Native Association

Select the correct answer using the code given below.

(a) 1-3-2-4
(b) 3-1-2-4
(c) 1-3-4-2
(d) 3-4-1-2

25. Which of the following are the features of a Republic?

1. Elected head of the State
2. People are sovereign
3. Abolition of all privileged class

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

26. Consider the following pairs:

Painting/Sculpture		***Place***
1. Mara Vijaya	:	Ajanta
2. Yakshini figure	:	Didarganj
3. Maheshmurti	:	Elephanta

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

27. Seeds do not germinate quickly in evergreen rainforests despite good rains and luxuriant vegetation because:

1. soil is heavily leached.
2. tall trees create a dense canopy which limits the amount of sunlight.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

28. Consider the following statements about Earth Biogenome Project:

1. It aims to sequence the genomes of all eukaryotic species over a period of ten years.
2. It will help in exploring the dark genome.
3. It is an initiative of the WHO (World Health Organisation).

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

29. *"The traditional folk theatre from Kerala is a part of UNESCO's list of the intangible cultural heritage of India. The theatre depicts the triumph of Goddess Bhadrakali over the demon Darika."*

Identify the form of theatre from the passage given above.

(a) Koodiyattam
(b) Mudiyettu
(c) Dashavatar
(d) Therukoothu

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30. The Satvahana king had a distinct love for navigation and overseas trade. He was hailed for the recovery of Konkan and Malwa from the Shaka rulers. His coins were marked by symbols of ships were found in Maharashtra, Gujarat along with the Andhra region. Identify the ruler from the passage given above.

(a) Vashishtputra Pulumayi
(b) Yajna Sri Satkarni
(c) Gautamiputra Satkarni
(d) Rudradaman-I

31. With reference to distribution of legislative subjects between centre and states, consider the following statements:

1. The distribution of legislative powers between the centre and states has been adopted from the Government of India Act, 1935.
2. A matter in the state list secures predominance over a matter in the concurrent list in case of conflict or overlapping between them.
3. A state law based on the subject mentioned in the concurrent list which has received the assent of the president cannot override a law made by the Parliament.

Which of the statements given above is/are correct?

(a) 1 and 3 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

32. Consider the following pairs:

Movement/ Organization		***Leader***
1. All India Anti-Untouchability League	:	B. R. Ambedkar
2. All India Kisan Sabha	:	Swami Sahajanand Saraswati
3. All India Scheduled Castes Federation	:	Mahatma Gandhi

Which of the pairs given above is/are correctly matched?

(a) 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

33. In the context of electoral reforms in India, which among the following have been implemented?

1. Allowing Persons in Jail or Police Custody to contest elections
2. Introduction of NOTA option in election to Rajya Sabha
3. Voting Rights to Citizens of India Living Abroad
4. Immediate Disqualification of Convicted MPs and MLAs

Select the correct answer using the code given below.

(a) 1, 2 and 3 only
(b) 2 and 4 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

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34. Which of the following pollutants are covered under National Ambient Air Quality Standards (NAAQS)?

1. Benzopyrene
2. Cadmium
3. Ammonia
4. Arsenic

Select the correct answer using the code given below.

(a) 1, 2 and 3 only
(b) 2 and 4 only
(c) 1, 3 and 4 only
(d) 1, 2, 3 and 4

35. The speed of light in glass is less than that in the vacuum because

(a) In glass, the frequency of light decreases while the wavelength remains the same.
(b) In glass, the frequency of light increases while the wavelength remains the same.
(c) In glass, the wavelength of light decreases while the frequency remains unaltered.
(d) In glass, the wavelength of light increases while the frequency remains unaltered.

36. This National Park lies between the Vindhya mountain hill range and the eastern flank of Satpura hill range. Major vegetation is dry mixed deciduous forest, dry grassland, and west Gangetic moist mixed deciduous forest. In the deep forest of it, 1000 years old recline Lord Vishnu Statue is situated, The major fauna found here includes Tiger, Elephant, Leopard, Wild dog, Hyena, Chital, Sambar, Black Buck.

Which of the following national parks is being described in the above-given passage?

(a) Panna National Park
(b) Satpura National Park
(c) Van Vihar National Park
(d) Bandhavgarh National Park

37. With regards to the Blue Flag Certification which was recently in news, which of the following statements is/are correct?

1. It is a voluntary award that can be given to beaches, marinas and boating tourism operators.
2. It's aim is to promote environmental education activities around the site.
3. Recently Kovalam beach and Eden beach have been awarded Blue Flag certification.

Select the correct answer using the code given below.

(a) 1 and 3 only
(b) 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

38. Which one of the following statements about Overseas Citizens of India (OCI) carholders is correct?

(a) They can travel to restricted areas without government permission.
(b) Parity with Indian nationals in the matter of claiming seats in educational institutions through competitive exams.
(c) They are exempted from registration with the Foreigners' Regional Registration Officer (FRRO) for any length of stay in India.
(d) They enjoy voting rights and can cast their vote from overseas through postal ballots.

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39. It is the principal organ for the absorption of nutrients. The digestion is completed here and the final products of digestion such as glucose, fructose, fatty acids, glycerol, and amino acids are absorbed through the mucosa into the bloodstream and lymph.

Which of the following parts of the Digestive System is being described in the above passage?

(a) Small Intestine
(b) Esophagus
(c) Stomach
(d) Large Intestine

40. Consider the following statements with regard to the creation or abolition of legislative councils in a state:

1. An amendment has to be moved in the Parliament under Article 368 of the Constitution of India.
2. Legislative assembly of the concerned state passes a resolution by a simple majority to that effect.

Which of the statements given above is/are ***not*** correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

41. Which of the following best describes the term 'Carrying capacity of an ecosystem'?

(a) It is a measure of the human demand on nature using an ecological accounting system.
(b) It refers to the maximum number of individuals that the environment can carry and sustain.
(c) It refers to the average longevity of offsprings of all the species living in an ecosystem.
(d) It refers to the minimum number of individuals that the environment can carry and sustain.

42. Consider the following statements with respect to SFURTI:

1. It is an initiative of the Ministry of Micro, Small and Medium Enterprises to promote Cluster development.
2. Non-Government Organizations (NGOs) are beneficiaries of the scheme.
3. The fund from the scheme can be utilized for brand-building and promotion campaigns of industries.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 only
(d) 1, 2 and 3

43. The President may exercise discretionary powers:

1. To appoint the successor when the Prime Minister in office dies suddenly.
2. If he/she is not convinced with the advice of the Council of Ministers.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

44. Which one of the following is/are ***not*** included in the traditional budget deficit?

(a) Draw down of cash
(b) Short term financing from RBI
(c) Long term financing from RBI
(d) All of the above

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45. With reference to Depository Receipts (DRs), consider the following statements:

1. DRs are negotiable financial instruments that represent the publicly traded securities of a foreign company.
2. Indian investors can purchase securities of global companies through American Depository Receipts.
3. In India, Global Depository Receipts issues based on shares of a company are considered as part of Foreign Direct Investment (FDI).

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

46. Consider the following statements regarding All India Services (Conduct) Rules, 1968:

1. It does not allow officers to retain gifts received from foreign dignitaries.
2. It only allows officers to accept gifts from their near relatives or from personal friends not exceeding ₹25,000.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

47. In the context of the Finance Commission, which of the following provisions are covered under The Finance Commission (Miscellaneous Provisions) Act, 1951?

1. Qualifications and Disqualifications of the members of the commission
2. Conditions of service and salaries and allowances of members
3. Eligibility for reappointment of the members
4. Procedure and powers of the Commission

Select the correct answer using the code given below.

(a) 1 only
(b) 1 and 2 only
(c) 2, 3 and 4 only
(d) 1, 2, 3 and 4

48. Recently, UNESCO has launched the eDNA project to unlock knowledge for biodiversity protection. In this context, eDNA refers to

(a) DNA that is released from an organism into the environment.
(b) bionic chip that contains all the DNA information of a species
(c) robot that can detect DNA of any species
(d) DNA that is mutated due to the influence of environment

49. In the context of Suhrawardi Silsilah of Sufism, consider the following statements:

1. It was founded by Khawaja Muinuddin after the invasion of Muhammad Ghori in India.
2. The Suhrawardi saints accepted possessed the attributes of property, knowledge and mystical enlightenment
3. It had a dominant presence in the region of Punjab and Sindh.

Which of the statements given above is/are correct?

(a) 3 only
(b) 1 and 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

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50. In the context of Indian economy, Gadgil Mukherjee formula was associated with
(a) estimation of GDP
(b) estimation of poverty line
(c) allocation of funds to states by the centre
(d) rationalisation of subsidies

51. Consider the following statements with respect to Free Trade Warehousing Zones (FTWZs):
1. The Units operating in the FTWZs are allowed to import goods duty-free and re-export these goods without paying duty.
2. Units can be set up in the FTWZ by foreign companies with 100% FDI under the automatic route.
3. All transactions in an FTWZ are only in convertible foreign currency.

Which of the statements given above are correct?
(a) 1 and 3 only
(b) 2 and 3 only
(c) 1, 2 and 3
(d) None

52. Consider the following passage :
This Peasants' Movement Went on For Nearly 50 Years in various phases, first from 1897 to 1915, then from 1916 to 1923 and finally 1923 to 1941. The epicentre of the uprising was located in the former princely state of Mewar. It was led by iconic personalities like Vijay Singh Pathik, Sadhu Sitaram Das, among others.
Which of the following peasant movements is being described in the above passage?
(a) Pabna Peasant Agitation
(b) Rangpur Peasant Uprising
(c) Bijolia Peasant Movement
(d) Bundi Peasant Movement

53. Recently, DRDO & Indian Air Force successfully flight-tested Stand-Off Anti-Tank Missile (SANT). In this context, consider the following statements about the SANT missile:
1. It is based on Millimetre Wave Seeker (MMW) technology.
2. It has been developed in collaboration with Israel.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

54. Recently, two new wetlands (and also wildlife sanctuaries) have been added to the list of Ramsar sites. They are Bakhira Wildlife Sanctuary and Khijadiya Wildlife Sanctuary. They are located in
(a) Uttarakhand and Himachal Pradesh respectively
(b) Odisha and West Bengal respectively
(c) Telangana and Chhattishgarh respectively
(d) Uttar Pradesh and Gujarat respectively

55. Consider the following statements regarding the Special Officer for Linguistic Minorities:
1. He/She is appointed for a term of six years by the President of India.
2. The Constitution of India does not specify his/her qualifications as well as the procedure for his/her removal.

Which of the statements given above is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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56. Consider the following pairs:

Act		*Features*
1. Charter Act of 1853	:	It established a separate Governor-General's legislative council.
2. Indian Councils Act of 1861	:	It ended the system of double government by abolishing the Board of Control and Court of Directors.
3. Charter Act of 1833	:	It ended the activities of the East India Company as a commercial body.

Which of the pairs given above is/are correctly matched?

(a) 3 only
(b) 1 and 2 only
(c) 1 and 3 only
(d) 1, 2 and 3

57. Recently seen in the news, the REPLACE action package is related to the replacement of

(a) fossil fuels in automobiles with electric energy by 2040.
(b) industrially produced trans-fat from national food supplies, by 2023.
(c) plastic from the packaging of food products by 2028.
(d) chemical fertilizer use in agriculture with organic fertilizer.

58. The State of Finance for Nature report, which was recently in news is related to:

(a) Investment in nature based solutions
(b) Community participation in deforestation
(c) Financial toll of climate change destruction
(d) Worth of natural assets capital

59. Consider the following statements with reference to National Geoscience Data Repository (NGDR):

1. It deals with collating all the geoscience data of the country including national organizations and academia engaged in research and development.
2. It is a flagship initiative of the Federation of Indian Mineral Industries.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

60. Arrange the following greenhouse gases in the increasing order of their Global Warming Potential (GWP).

1. Carbon Dioxide
2. Nitrous Oxide
3. Methane

Select the correct answer using the code given below.

(a) 1-2-3
(b) 1-3-2
(c) 2-1-3
(d) 2-3-1

61. With reference to the Institute of Chartered Accountants of India (ICAI), consider the following statements:

1. The ICAI constitutes of members both elected and nominated by the Chartered Accountants and the Central Government respectively.
2. It is a statutory body under the administrative control of the Ministry of Corporate Affairs.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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62. London convention recently seen in news is associated with:

(a) Prevention of Global warming
(b) Biodiversity conservation
(c) Prevention of ozone layer depletion
(d) Prevention of Marine Pollution

63. Consider the following statements about Kisan Credit Card Scheme:

1. The Kisan Credit Card scheme provides for the issue of ATM-enabled RuPay Debit cards.
2. It is not available to the farmers engaged in Fisheries.
3. Its holder has the option to take the benefit of crop insurance.

Which of the statements given above are correct?

(a) 1, 2 and 3
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1 and 2 only

64. With reference to Import Substitution Industrialization Strategy (ISI), consider the following statements:

1. The ISI strategy was based on the model of growth propounded by Mahalanobis.
2. The strategy promotes the import of machinery and critical intermediates.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

65. Consider the following statements with respect to the reforms introduced by Alauddin Khalji:

1. The state set up warehouses stocked with food grains which were released during famine or shortfall in supply.
2. Different markets were set up for different kinds of goods.
3. Animal husbandry and associated activities were made tax-free.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

66. Consider the following statements regarding Central Road Fund:

1. It is a non-lapsable fund created out of a cess/tax imposed by the Union Government on the consumption of Petrol and High Speed Diesel.
2. Funds collected under CRF can only be used to develop and maintain National Highways.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

67. How do the Arakan Hills influence the Indian monsoon?

(a) They cause the Bay of Bengal branch of the monsoon to split into three parts flowing across China, India and Thailand.
(b) They deflect a big portion of Bay of Bengal branch of the monsoon towards the Indian subcontinent.
(c) They bifurcate the Subtropical Westerly Jet Stream into two branches.
(d) They have no impact on the Indian Monsoon.

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68. Consider the following statements regarding the OECD's Two-Pillar solution recently seen in the news.

1. It addresses the tax challenges arising from the digitalization of the world economy.
2. It is based on the G20 Inclusive Framework on Bases erosion and Profit Shifting
3. It seeks to levy a minimum 15% tax on the corporate profit of multinational companies across the globe.
4. India disagreed with these proposed measures.

Which of the statement(s) given above is/are correct?

(a) 1 and 2 only
(b) 2, 3 and 4 only
(c) 1, 2 and 3 only
(d) 4 only

69. Consider the following statements:

1. A substantive motion is an independent proposal capable of expressing the decision of the House.
2. All resolutions come in the category of substantive motions.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

70. Consider the following pairs:

National Park		***State***
1. Valmiki National Park	:	Bihar
2. Bhitarkanika National Park	:	Odisha
3. Papikonda National Park	:	Andhra Pradesh

Which of the pairs given above are correctly matched?

(a) 2 and 3 only
(b) 1 and 3 only
(c) 1 and 2 only
(d) 1, 2 and 3

71. Consider the following pairs:

Puppetry		***Type***
1. Ravanachhaya	:	String Puppetry
2. Putul Nautch	:	Rod Puppetry
3. Pavakoothu	:	Glove Puppetry

Which of the pairs given above is/are correctly matched?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

72. Categorization of Industries by CPCB is done based on their pollution load into red, orange, green, and white categories. In this context consider the following statements:

1. It is not necessary to obtain consent to operate for the white category of industries.
2. Red category of industries is not permitted in the protected area.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

73. With reference to the delimitation of assembly constituencies, consider the following statements:

1. An assembly constituency can not extend to more than one district.
2. Those seats are reserved for the SCs & STs in the constituencies in which the percentage of their population is largest.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

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74. Consider the following statements with reference to the Engineering Export Promotion Council (EEPC) of India:

1. It is the first non-commercial and non-profit organisation in the country with ISO-based quality management standards.
2. The membership of the council is restricted to the large scale Industries in India.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

75. With reference to Software Technology Park (STP) Scheme, consider the following statements:

1. Software Technology Parks of India were set up as autonomous societies under the Ministry of Science and Technology.
2. It is a 100% export-oriented scheme.
3. Import of second-hand capital goods is also permissible for benefits under the scheme.

Which of the statements given above is/are correct?

(a) 1, 2 and 3
(b) 1 only
(c) 2 and 3 only
(d) 1 and 3 only

76. In the context of Cyber Security, consider the following statements regarding the Common Vulnerabilities and Exposures (CVE) Program:

1. Indian Institute of Science has been authorized as CVE Numbering Authority (CNA) for vulnerabilities impacting all products designed, developed, and manufactured in India.
2. CVE is an international community-based effort and depends on the community to discover vulnerabilities in the cyber space.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

77. Chocolate-Bordered Fritter recently seen in news is a species of:

(a) Bird
(b) Rodent
(c) Butterfly
(d) Fish

78. Which of the following statements is/are correct with reference to the historical significance of Mamallapuram?

1. It was one of the major port cities by the 7th Century within the Pallava Kingdom.
2. The town was named after King Mahendravarman II.
3. Chinese traveler Huen Tsang visited the region during the rule of the Narasimhavarman I.

Select the correct answer using the code given below.

(a) 1, 2 and 3
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1 and 2 only

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79. Which of the following statements regarding Operation Olivia is/are correct?

1. It is initiated by Indian Coast Guards to safeguard Green Sea turtles.
2. The objective of the operation is to keep a vigil on illegal fishing to ensure the breeding of turtles.

Select the correct answer using the code given below.

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

80. Consider the following statements regarding the Vellore Mutiny:

1. Introduction of new army regulations is one of the major causes of the mutiny.
2. It happened during the reign of Tipu Sultan.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

81. With reference to increased warming of oceans, consider the following statements:

1. During El Niño, the oceans release some amount of heat, contributing to mini global warming.
2. Warmer oceans create more powerful storms and hurricanes.
3. Warming of oceans results in increased stratification or less mixing of the ocean layers.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

82. Consider the following passage:

He approved the Ryotwari system of land revenue introduced in the Madras Presidency. During his period, the Police system of Bengal was extended to other regions. He also encouraged the foundation of vernacular schools by missionaries and others. He abolished censorship and encouraged the freedom of the Press.

Which of the following Governor-General is being described in the above passage?

(a) Warren Hastings
(b) Lord Wellesley
(c) Lord Cornwallis
(d) Lord Hastings

83. The 'Fifth Report' one of the most significant report submitted to the British Parliament in 1813 was related to

(a) famines in India
(b) working of East India Company
(c) status of education in British India
(d) condition of women in India

84. Many goods and services that are essential to human life such as water have a much lower price in a market economy than other goods and services that are not so essential like diamonds. Which of the following could be the reason(s) for the diamond-water paradox?

(a) Marginal utility of water is zero
(b) The supply of diamonds is very inelastic
(c) Water is a veblen good
(d) All of the statements (a), (b) and (c) are correct.

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85. Which of the following is ***not*** correct regarding Fungi?

(a) These are eukaryotes responsible for decomposition of organic matter.
(b) They thrive in moist and slightly acidic environment.
(c) They cannot grow without sunlight.
(d) Fungi can reproduce asexually.

86. In the context of US Federal Reserve, which of the following best describes taper tantrum, a term sometimes seen in the news?

(a) It is a situation in monetary policy that sees interest rates falling below 0%.
(b) It refers to a shift in monetary policy that led to decrease in the purchase of the treasury bonds by US Fed.
(c) It is when monetary policy becomes ineffective due to very low interest rates.
(d) Increase in capital inflows in emerging markets due to Quantitative Easing by US Federal Reserve.

87. Which one of the following is/are correct with respect to the formation of new states?

1. Legislation to form a new state shall not be introduced in either House of the Parliament unless first recommended by the President.
2. Parliament is not bound to accept or act upon the views of the State legislature.
3. First Schedule and the fourth schedule of the constitution of India are amended by such legislations.

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 and 3 only
(c) 3 only
(d) 1, 2 and 3

88. Which of the following are features of the Nagara school of architecture?

1. There were water tanks present on temple premises.
2. Temples were generally built on raised platforms.
3. Temples have assembly halls in front of the principal shrine.

Select the correct answer using the code given below.

(a) 2 only
(b) 1 and 3 only
(c) 2 and 3 only
(d) 1, 2 and 3

89. "The 12th-century historian is famous for a chronicle named Rajatarangini. The work was a string of biographies of kings of Kashmir written in Sanskrit. His work is considered as one of the best examples of historical writings of the Kashmir region."

Which of the following personalities has been described in the passage given above?

(a) Bilhana
(b) Banabhatta
(c) Kalhana
(d) Atula

90. Which of the following statements regarding Indian Desert Cat is/are correct?

1. It is categorized as Least Concern in the IUCN Red List of Threatened Species.
2. It is difficult to spot as it leaves no pugmarks behind.
3. It can survive without water for long

Select the correct answer using the code given below.

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

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91. With reference to the Shipping industry of India and the world, consider the following statements:

1. In terms of volume, no Indian port lies in the top ten container ports of the world.
2. The busiest sea route in the world connects the Pacific and the Indian ocean.
3. Over 90% of India's trading by volume is done through maritime transport.

Which of the statements given above are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

92. Which of the following is/are the Commissions of the International Union for Conservation of Nature (IUCN)?

1. Species Survival Commission
2. World Commission on Protected Areas
3. World Commission on Environmental Law

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 2 only
(c) 3 only
(d) 1, 2 and 3

93. With reference to Prepaid Payment Instruments (PPIs), consider the following statements:

1. It enables remittance facilities against the value stored within or on the instrument.
2. The Non-bank companies incorporated in India and registered under the Companies Act can issue these instruments.
3. The Ombudsman for prepaid payment issuers (PPIs) is amalgamated into the Integrated Ombudsman scheme by the RBI.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

94. With reference to 'curative petition', consider the following statements:

1. It is a judicial innovation and not mentioned under Indian constitution.
2. It must only be heard by the bench of five judges including Chief Justice of India and the judges who dismissed review petition.
3. Such a petition need to be filed within 6 months from the date of judgement or order.

Which of the statements given above is/are correct?

(a) 1 only
(b) 1 and 2 only
(c) 1 and 3 only
(d) 2 and 3 only

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95. Consider the following statements regarding Hydrofluorocarbons (HFCs):

1. These are ozone-depleting substances.
2. These are primarily used for cooling and refrigeration.
3. All these are long-lived climate pollutants.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) 2 and 3 only
(d) 1, 2 and 3

96. With reference to the Scheme for Financing Viable Infrastructure Projects (SIFTI), consider the following statements:

1. The projects are financed through a Non-Banking Finance Company called the Industrial Finance Corporation of India (IFCI)
2. Debt raised from multilateral institutions such as the World Bank is allowed to cover the project cost.
3. The projects implemented by private sector companies are eligible for funding under the scheme.

Which of the statements given above is/are correct?

(a) 1 and 2 only
(b) 2 and 3 only
(c) 2 only
(d) 1, 2 and 3

97. Which of the following statements is ***not*** correct regarding a catalytic converter?

(a) It splits up the molecules after they leave a car's engine and before they get pumped out into the air.
(b) It speeds up the removal of pollution.
(c) It is more effective in leaded petrol.
(d) Platinum or palladium is used to make the catalyst.

98. Manganese is an important raw material for smelting of iron ore. In this context, consider the following statements regarding manganese deposits in India:

1. In India, manganese deposits are mainly associated with the Dharwar rock system.
2. India is one of the leading exporters of manganese in the world.

Which of the statements given above is/are correct?

(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

99. Which of the following are sources of microbeads?

1. Toothpaste
2. Soap
3. Rubbers from vehicle tires
4. Sludge from sewage treatment plants

Select the correct answer using the code given below.

(a) 1 and 2 only
(b) 3 and 4 only
(c) 1 and 4 only
(d) 1, 2, 3 and 4

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100. Consider the following statements regarding the Strategic Petroleum Reserve (SPR):

1. The global standard for Strategic Oil reserve by International Energy Agency mandates that the country should maintain a reserve of 90 days of oil imports for SPR purposes.
2. Construction of storage facilities of reserves is maintained by Indian Oil Corporation.
3. India has an existing SPR capacity in Visakhapatnam, Mangalore, and Padur.

Which of the statements given above is/are correct?

(a) 2 only
(b) 1 and 3 only
(c) 1 only
(d) 2 and 3 only

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ANSWERS & EXPLANATIONS
GENERAL STUDIES (P) TEST – 3496 (2022)

Q 1.A

- **A quasi-satellite is an object that orbits the Sun with an orbital period similar to that of the Earth. From Earth's perspective, the object appears to orbit the Earth instead even though it does not.**
- Earth has over 20 quasi-satellites that are in permanent or temporary orbits. Even though these pieces of rock are physically close to our planet, they are very hard to observe due to their small and faint size — fainter than even the faintest star that can be seen with the naked eye in the night sky.
- **One of Earth's quasi-satellites, discovered in 2016 and known as Kamoʻoalewa, is likely a piece of the Moon that once broke away from an impact, a new study said.**
- According to the study, the Kamoʻoalewa asteroid is a fast rotator, spinning around fully every 28 minutes, and orbits the Sun every 366 days. It is at an orbit that is inclined to that of the Earth.
- It is just about 41 meters across, and in its closest approach to Earth, comes to 13 times the distance of the Moon from us — roughly 50,00,000 km away. It is the smallest and most stable known quasi-satellite of Earth.
- **Hence, option (a) is the correct answer.**

Q 2.D

- Government Debt/ Sovereign External Debt (SED) refers to the foreign debt contracted by the Government or the extent of external liabilities taken by the Government.
- SED includes:
  - External debt outstanding on account of loans received by the Government of India under the ―external assistance programme and the civilian component of Rupee Debt; and
  - Other Government Debt (OGD) comprising **borrowings from IMF,** the defence debt component of Rupee debt as well as foreign currency defence debt and **FII investment in Government Securities**.
- **Hence, option (d) is the correct answer.**

Q 3.C

- In the Bengal region, the style of architecture came to be known as the Pala School of Architecture. It developed in the period between the **8th and 12th century A.D**. under the patronage of the Pala dynasty. The **Palas were primarily Buddhist rulers following Mahayana** tradition, but were very tolerant and patronized other religions also. Pala Kings built lots of Viharas, Chaityas, and Stupas.
- **Monuments under Pala rulers are:** Universities of **Jagaddala, Odantapuri, and Vikramshila** were developed under Pala rulers. **Somapura Mahavihara** is a magnificent monastery in Bangladesh developed by them.
- **Note**: Pala rulers were great patrons of Buddhist learning and religion. The **construction of Nalanda university began in the 5th century AD and flourished under the Gupta rulers**. The Nalanda University was **revived by Dharmapala and 200 villages were set apart** for meeting its expenses. It came to an end in the 12th century when it was **destroyed by** the invading Turkish army led by its commander **Bakhtiar Khilji. UNESCO has declared Nalanda Mahavihara** as a **World Heritage Site.**
- **Hence option (c) is the correct answer.**

Q 4.A

- The **common palm civet (Paradoxurus hermaphrodites)** has been seen in Odisha's Satkosia Tiger Reserve (STR) after 129 years. The finding was published in journal Zoo.
- A partial albino common palm civet, Saliapatani, was last sighted in 1891 by a noted wildlife researcher in the forests of Kandhamal district of Odisha. It is a small mammal belonging to the family Viverridae. It

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can be found in southern and southeastern Asia. Their long, stocky body is covered with coarse, shaggy hair that is usually grey in colour.

- It is thought to lead a solitary lifestyle, except for brief periods during mating. It is both terrestrial and arboreal, and shows a nocturnal activity pattern with peaks between late evening until after midnight. It is usually active between dawn and four in the morning, but less active during nights when the moon is the brightest.

Q 5.D

- A Collective Investment Scheme (CIS), as its name suggests, is an investment scheme wherein several individuals come together to pool their money for investing in a particular asset(s) and for sharing the returns arising from that investment as per the agreement reached between them prior to pooling in the money.
- **In India, the definition of CIS excludes mutual funds or unit trust schemes etc** and is given a strict definition in Section 11AA of the SEBI Act, 1992. **Hence, statement 1 is not correct.**
- According to Section 11AA of the SEBI Act, CIS is any scheme or arrangement, which satisfies the following conditions:
  - the contributions, or payments made by the investors, by whatever name called, are pooled and utilized solely for the purposes of the scheme or arrangement;
  - the contributions or payments are made to such scheme or arrangement by the investors with a view to receive profits, income, produce or property, whether movable or immovable, from such scheme or arrangement;
  - the property, contribution or investment forming part of scheme or arrangement, whether identifiable or not, is managed on behalf of the investors;
  - the investors do not have day to day control over the management and operation of the scheme or arrangement.
- **CISs are regulated by the securities market regulator – SEBI - under SEBI (Collective Investment Scheme) Regulations, 1999. Hence, statement 2 is not correct.**

Q 6.A

- **Question Hour**
- The first hour of every parliamentary sitting is slotted for this. During this time, the members ask questions and the ministers usually give answers. The questions are of three kinds, namely, starred, unstarred and short notice.
  - A starred question (distinguished by an asterisk) requires an oral answer and hence supplementary questions can follow.
  - An unstarred question, on the other hand, requires a written answer and hence, supplementary questions cannot follow.
  - A short notice question is one that is asked by giving a notice of less than ten days. It is answered orally.
  - In addition to the ministers, the questions can also be asked to the private members. Thus, a question may be addressed to a private member if the subject matter of the question relates to some Bill, resolution or other matter connected with the business of the House for which that member is responsible.
  - It is regulated according to parliamentary rules. **Hence option (a) is the correct answer.**
- **Speaker of Lok Sabha**
  - **Article 93:** The Speaker and Deputy Speaker of the House of the People.—The House of the People shall, as soon as may be, choose two members of the House to be respectively Speaker and Deputy Speaker thereof and, so often as the office of Speaker or Deputy Speaker becomes vacant, the House shall choose another member to be Speaker or Deputy Speaker, as the case may be.
  - The date of election of the Speaker is fixed by the President.
- **Joint sitting**
  - It is extraordinary machinery provided by the Constitution **(Article 108)** to resolve a deadlock between the two Houses over the passage of a bill.
  - A deadlock is deemed to have taken place under any one of the following three situations after a bill has been passed by one House and transmitted to the other House:
    - ✓ if the bill is rejected by the other House
    - ✓ if the Houses have finally disagreed as to the amendments to be made in the bill; or
    - ✓ if more than six months have elapsed from the date of the receipt of the bill by the other House without the bill being passed by it.

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Q 7.A

- On 28 December 1885, 72 social reformers, journalists and lawyers congregated for the first session of the Indian National Union at Gokuldas Tejpal Sanskrit College, Bombay; the conference was renamed as the Indian National Congress. Allan Octavian Hume was instrumental in the formation of Indian National Congress along with Dadabhai Naoroji and Dinshaw Edulji Wacha.
- **Lord Dufferin was the Viceroy of British India when Indian National Congress was formed.**
  - **He was the Viceroy of British India from 13 December 1884 – 10 December 1888. Hence, statement 1 is correct.**
- W.C. Bonnerjee was the first president of the Indian National Congress.
- **The last session of Congress before independence in 1946 was held at Meerut with J.B. Kripalani as the President. Hence, statement 2 is not correct.** .

Q 8.A

- Each House of Parliament has its own presiding officer. There is a Speaker and a Deputy Speaker for the Lok Sabha and a Chairman and a Deputy Chairman for the Rajya Sabha. The Speaker is elected by the Lok Sabha from amongst its members
- **The Speaker is the head of the Lok Sabha, and its representative.** He is the guardian of powers and privileges of the members, the House as a whole and its committees. He is the principal spokesman of the House, and his decision in all Parliamentary matters is final. **Hence, statement 1 is correct.**
- The Speaker has the following powers and duties:
  - He maintains order and decorum in the House for conducting its business and regulating its proceedings. This is his primary responsibility and he has final power in this regard.
  - He is the final interpreter of the provisions of (a) the Constitution of India, (b) the Rules of Procedure and Conduct of Business of Lok Sabha, and (c) the parliamentary precedents, within the House.
  - He presides over a joint setting of the two Houses of Parliament. Such a sitting is summoned by the President to settle a deadlock between the two Houses on a bill.
  - He can allow a 'secret' sitting of the House at the request of the Leader of the House.
  - He decides whether a bill is a money bill or not and his decision on this question is final.
  - He decides the questions of disqualification of a member of the Lok Sabha, arising on the ground of defection under the provisions of the Tenth Schedule.
  - **He lay down the guidelines for the recognition of parliamentary parties and to recognise the leader of a party in opposition as the Leader of Opposition in Lok Sabha. Hence, statement 2 is correct.**
- **The Deputy Speaker is the chairman of the Budget Committee which approves the budget proposals of the Secretariat before these are sent to the Ministry of Finance for incorporation in general budget. Hence, statement 3 is not correct.**

Q 9.D

- Zonal Council are the **statutory (not Constitutional) bodies** established by the Parliament through States Reorganisation Act, 1956.
- The idea of creation of Zonal Councils was mooted by the first Prime Minister of India, Pandit Jawahar Lal Nehru in 1956 when during the course of debate on the report of the States Re-organisation Commission, he suggested that the States proposed to be reorganised may be grouped into four or five zones having an Advisory Council 'to develop the habit of cooperative working" among these States. **Hence statement 1 is not correct.**
- This Act provided for **five zonal councils** North, South, East, West and Central. The present composition of each of these Zonal Councils is as under:
  - The **Northern Zonal Council**, comprising the States of Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, National Capital Territory of Delhi and Union Territory of Chandigarh;
  - The **Central Zonal Council**, comprising the States of Chhattisgarh, Uttarakhand, Uttar Pradesh and Madhya Pradesh;
  - The **Eastern Zonal Council**, comprising the States of Bihar, Jharkhand, Orissa, Sikkim and West Bengal;
  - The **Western Zonal Council**, comprising the States of **Goa**, Gujarat, Maharashtra and the Union Territories of Daman & Diu and Dadra & Nagar Haveli;
  - The **Southern Zonal Council**, comprising the States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the Union Territory of Puducherry.
- In addition to the above Zonal Councils, a North-Eastern Council was created by a separate Act of Parliament, the **North-Eastern Council Act of 1971**.

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- The **Union home minister** is the common chairman of the five zonal councils. Each chief minister acts as a vice-chairman of the council by rotation, holding office for a period of one year at a time.
- As per Section 17(1) of States Re-organisation Act, each Zonal Council shall meet at such time as the Chairman of the Council may appoint in this behalf. **Hence Statement 2 is not correct.**

Q 10.B

- Indian National Congress was founded in December 1885 by seventy-two political workers. It was the first organized expression of Indian nationalism on an all-India scale. A.O. Hume, a retired English ICS officer, played an important role in its formation. A powerful and long-lasting myth, the myth of 'the safety valve,' has arisen around this question.
- **In his Young India published in 1916, the Extremist leader Lala Lajpat Rai used the safety-valve theory to attack the Moderates in the Congress.** Having discussed the theory at length and suggested that the Congress 'was a product of Lord Dufferin's brain,' he argued that 'the Congress was started more with the object of saving the British Empire from danger than with that of winning political liberty for India. The interests of the British Empire were primary and those of India only secondary.'
- **Hence, option (b) is the correct answer.**

Q 11.A

- The North American Cordillera, sometimes also called the Western Cordillera of North America, the Western Cordillera or the Pacific Cordillera, is the North American portion of the American Cordillera, the mountain chain system (cordillera) along the western coast (Pacific coast) of the Americas.
- The North American Cordillera covers an extensive area of mountain ranges, intermontane basins and plateaus in Western/Northwestern Canada, Western United States and Mexico, including much of the territory west of the Great Plains. **Hence option (a) is the correct answer.**

Q 12.C

- **Ruderal species**
  - A ruderal species is **a plant species that is the first to colonize disturbed lands.** Ruderal species typically dominate the disturbed area for a few years, gradually losing the competition to other native species. **Hence, statement 2 is correct.**
  - Ruderals are an important component of the urban green space, are distributed widely in and around cities, occur at no financial cost, and are always appropriate in urban conditions. However, the use of ruderals for landscaping purposes in urban green spaces has been largely ignored.
  - Ruderals are a **kind of spontaneous vegetation and have great significance for biodiversity in urban areas.** Ruderals are a vegetation type that invades cities and becomes widely distributed without relying on human intervention. They have a survival strategy that can adapt to local habitats and resist intense human interruption.
  - Some research has suggested that ruderals could contribute to valuable ecosystem services, such as reducing the temperature, providing a habitat for wildlife, reducing runoff, and carbon sequestration. The management of spontaneous vegetation in urban areas to increase its ecological and social value is a sustainable strategy for the development of urban green spaces.
  - **Many ruderal species share attributes such as** (1) high rates of resource acquisition and vegetative growth, (2) allocation patterns that respond flexibly to changing resource availability, (3) low levels of defensive chemicals, (4) early onset of reproduction, (5) self-compatibility, (6) high seed production, (7) adaptations for short- and long-distance dispersal, and (8) variable seed dormancy Some of these attributes are obviously advantageous for crops in cultivated environments (termed pre adaptations), whereas others, such as variable seed dormancy, are clearly problematic for maximizing harvestable yield.
- **Indicator species:**
  - An indicator species is **a species or group of species chosen as an indicator of, or proxy for, the state** of an ecosystem or of a certain process within that ecosystem. **Hence, statement 1 is correct.**
  - Examples include **crayfish as indicators of freshwater quality; corals as indicators of marine processes such as siltation, seawater rise, and sea temperature fluctuation; peregrine falcons** as an indicator of pesticide loads; or native plants as indicators for the presence and impact of alien species.

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Q 13.A

- **All India States' People's Conference was a national-level body founded in 1927 with its headquarters at Bombay with the objective to coordinate political activities in different states** and also to raise moderate demands for democratic rights and constitutional changes in the Princely States. **Hence, statement 1 is correct**
- The men chiefly responsible for its formation were Balwantrai Mehta, Manikial Kothari and G.R. Abhayankar. It was an independent organisation and not formed by Indian National Congress. In 1939, the AISPC elected Jawaharlal Nehru as its President for the Ludhiana session and remained so until 1946. **Hence, statement 2 is not correct.**

Q 14.B

- For a long period, research on iron-air cells was put on hold due to intractable technological hurdles. However, in recent times, there has been a tremendous surge in study interest.
- In July 2021, American company Form Energy Inc. announced a rechargeable iron-air battery capable of delivering electricity for 100 hours at a claimed system cost-competitive with conventional power plants and at less than a tenth the cost of lithium-ion.
- **The Iron-Air battery leverages the concept of 'reversible rusting' — it uses oxygen from the air and converts iron metal to rust while discharging, and while charging, the application of an electrical current transforms the rust back to iron and the battery releases oxygen back into the air. Hence, statement 1 is correct.**
- The active components of the iron-air battery system are some of the safest, cheapest, and most abundant materials on the planet — low-cost iron, water, and air.
- **The iron-Air battery is optimized to store electricity for up to 100 hours. Hence, statement 2 is correct.**
- **Each individual battery is about the size of a washing machine. Each of these modules is filled with a water-based, non-flammable electrolyte, similar to the electrolyte used in AA batteries. Hence, statement 3 is not correct.**

Q 15.C

- Recently, As per the Reserve Bank of India (RBI), **State Bank of India (SBI), HDFC Bank and ICICI Bank** has continued to be identified as Domestic Systemically Important Banks (D-SIBs), similar to the 2020 list of D-SIBs. **Hence statement 3 is correct.**
- Some banks become domestic systemically important, **because of their size**, cross-jurisdictional activities, lack of substitutability & interconnectedness, and complexity.

S. No.	Indicator	Sub-indicator	Indicator weight
1	Size (total exposure as defined for use in Basel III Leverage Ratio)	--	40%
2	Interconnectedness	Intra-financial system assets	6.67%
		Intra-financial system liabilities	6.67%
		Securities outstanding	6.67%
3	Substitutability	Assets Under Custody	6.67%
		Payments made in INR using RTGS and NEFT systems	6.67%
		Underwritten transactions in debt and equity markets	6.67%
4	Complexity	Notional amount of OTC Derivatives	6.67%
		Cross Jurisdictional Liabilities	6.67%
		Securities in Held For Trading and Available for Sale categories	6.67%

- **Hence statement 2 is correct.**
- **Such banks are perceived as banks as 'Too Big To Fail' (TBTF).**
- This perception creates an expectation of the government's support at the time of distress in these banks.

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- These banks are subjected to additional policy measures in order to deal with moral hazard issues and systemic risks posed by them.
- **The BCBS finalized its framework for dealing with D-SIBs in October 2012.**
- The D-SIB framework focuses on the impact that the distress or failure of banks will have on the domestic economy.
- As opposed to the G-SIB framework, the **D-SIB framework is based on the assessment conducted by the national authorities, who are best placed to evaluate the impact of failure on the local financial system and the local economy. Hence statement 1 is not correct.**
- D-SIB framework is based on a set of principles, which complement the G-SIB framework, address negative externalities and promote a level-playing field.
- **In a sample of banks-**
  - The banks will be selected for computation of systemic importance based on the analysis of their size (based on Basel III Leverage Ratio Exposure Measure) as a percentage of GDP. Banks having a size beyond 2% of GDP will be selected in the sample.
  - As foreign banks in India have smaller balance sheet sizes, none of them would automatically get selected in the sample. However, foreign banks are quite active in the derivatives market and the specialized services provided by these banks might not be easily substituted by domestic banks.
- **It is, therefore, appropriate to include a few large foreign banks also in the sample of banks to compute the systemic importance.**

Q 16.B

- Recently, the Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) under the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act 2001 (PPV&FRA) has revoked a plant variety protection certificate granted to PepsiCo India Holding on **FC-5 potato variety (also called FL-2027)** on multiple grounds.
  - This was the first case of infringement of rights under the Act. It upholds farmers' seed freedoms and sends an important signal that **farmers' rights cannot be taken lightly by IPR-holders in the country.**
- The Act introduced intellectual property protection in Indian agriculture and is the world's only IPR legislation that grants intellectual property rights not only to the plant breeders but also to the farmers.
- The act was enacted in 2001 under Article 27(3) (b) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). **Hence statement 1 is correct.**
- **Section 39(1) of the Act** allows all farmers cultivating a registered new variety the right to "save, use, sow, resow, exchange, share or sell farm produce including seeds" **except the branded seeds**. **Hence statement 2 is not correct.**
- **Section 45(2)(C) of the Act** mandates to constitute a National Gene Fund by the central government for supporting the conservation and sustainable use of genetic resources and for **strengthening the capability of the Panchayat** in carrying out such conservation and sustainable use. **Hence statement 3 is correct.**

Q 17.A

- **Recently, the Prime Minister of India led the tributes to freedom fighter Velu Nachiyar on her 292nd birth anniversary.**
- **Rani Velu Nachiyar (03 January 1730 - 25 December 1796)**
- Also known as Veeramangai (brave women in Tamil), Rani Velu Nachiyar was the daughter of King Chellamuthu Vijayaragunatha Setupathy of Ramanathapuram.
- She became the queen of the Sivaganga estate (in present-day Tamil Nadu) from 1780-to 1790.
- She formed an alliance with Hyder Ali against the British in 1780 and was the first queen to wage war against the East India Company. **Hence statement 1 is correct and statement 2 is not correct.**

Q 18.B

- On August 31, 1920 the Khilafat Committee started a campaign of non-cooperation and the movement was formally launched in September 1920 at a special session in Calcutta. Congress approved a non-cooperation programme till the Punjab and Khilafat wrongs were removed and Swaraj was established. The programme was to include -
  - Boycott of government schools and colleges
  - Boycott of law courts and dispensation of justice through Panchayats instead
  - Boycott of Legislative Councils; (there were some differences over this as some leaders like C.R. Das were not willing to include a boycott of councils, but bowed to Congress discipline; these leaders boycotted elections held in November 1920 and the majority of the voters too stayed away)

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- Boycott of foreign cloth and use of khadi instead; also practice of hand-spinning to be done
- Renunciation of government honours and titles; the second phase could include mass civil disobedience including resignation from government service, and non-payment of taxes

- When Mahatma Gandhi announced his decision to withdraw the movement after the Chauri Chaura incident, most of the nationalist leaders including C.R. Das, Motilal Nehru, Subhash Bose, Jawaharlal Nehru, expressed their bewilderment at and disappointment. **But despite this Non-Cooperation Movement achieved a lot**
  - **Peasant and working-class participation was impressive.**
  - **Except in Madras, the Council election boycott was more or less successful as the polling averages were around 5-8 percent.**
  - **The economic boycott was intense and successful as the imports of foreign cloth dropped from 1020 million rupees in 1920-21 to 570 million rupees in 1921-22. Import of British cotton goods also declined.**
  - The tremendous participation of Muslims in the movement and the maintenance of communal unity was in itself no mean achievement.
- **However, middle-class participation was not spectacular and also large industrialists were anti-Non-Cooperation and pro-government.**
- **Hence, option (b) is the correct answer.**

Q 19.D

- In 1995. the United Nations Environment Programme expanded its research and investigation on Persistent Organic Pollutants (POPs) with an initial focus on what became known as the "Dirty Dozen".
- These were a group of 12 highly persistent and toxic chemicals: aldrin, chlordane, **DDT**, dieldrin, endrin, heptachlor, hexachlorobenzen, mirex, **polychlorinated biphenyls,** polychlorinated dibenzo-p-dioxins, polychlorinated dibenzofurans, and toxaphen.
- Many of the pesticides in this group are no longer used for agricultural purposes but a few continue to be used in developing countries.
- Since then, additional substances such as **carcinogenic polycyclic aromatic hydrocarbons (PAHs)** and certain brominated flame-retardents, as well as organometallic compounds such as tributyltin (TBT) have been added to the list of Persistent Organic Pollutants.
- **Hence option (d) is the correct answer.**

Q 20.A

- In international politics, de-hyphenation means dealing with two countries, having an adversarial relationship between them, in an independent manner.
- Recently, diplomatic relations between India and Isreal have just completed 30 years.
  - India's relationship with Israel stands on its own merits, independent and separate from India's relationship with the Palestinians. It would no longer be India's relationship with Israel-Palestine, but India's relationship with Israel, and India's relationship with the Palestinians.
- **Hence option (a) is the correct answer**.

Q 21.C

- Soils around the world vary in color, texture, structure, and chemical, physical, and biological composition. Soils are a function of the five soil-forming factors: climate, organisms, relief, parent material, and time. Each of these factors range on a continuum, so the different soils of the world number in the thousands. Soil scientists recognize 12 major orders of soils.
  - Alfisols - moderately leached soils often found in temperate forests
  - **Andisols - soils formed in volcanic ash**
  - Aridisols – desert soils
  - Entisols - soils with little or no morphological (horizon) development
  - **Gelisols - soils with permafrost**
  - Histosols - organic soils
  - **Inceptisols - weakly developed soils**
  - **Mollisols - grassland soils**
  - Spodosols – acidic, sandy forest soils under conifers
  - Oxisols - very weathered soils of tropical and subtropical environments
  - Ultisols – acidic, strongly leached, older soils
  - Vertisols - clayey soils that swell when wet
- **Hence option (c) is the correct answer.**

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Q 22.B

- pH is a quantitative measure of the acidity or basicity of aqueous or other liquid solutions. The term, widely used in chemistry, biology, and agronomy, translates the values of the concentration of the hydrogen ion—which ordinarily ranges between 0 and 14 on a pH scale.
- The strength of acids and bases depends on the number of H+ ions and OH– ions produced, respectively. If we take hydrochloric acid and acetic acid of the same concentration, say one molar, then these produce different amounts of hydrogen ions. Acids that give rise to more H+ ions are said to be strong acids, and acids that give less H+ ions are said to be weak acids.

- **Approximate pH values of some common acids and bases are**
  - **Lemon juice - 2.2**
  - **Milk of Magnesia (Magnesium hydroxide) -10**
  - **Caustic Soda (Sodium Hydroxide) -14**
- Water has a pH of around 7.4.
- Our body works within the pH range of 7.0 to 7.8. Living organisms can survive only in a narrow range of pH changes. When the pH of rainwater is less than 5.6, it is called acid rain.
- **Hence, option (b) is the correct answer.**

Q 23.C

- **Option (a) is correct**: Unlike in other federations, the states in India have no right to territorial integrity. The Parliament can by unilateral action change the area, boundaries, or name of any state. Moreover, it requires only a simple majority and not a special majority. Hence, the Indian Federation is "**an indestructible Union of destructible states"**. The American Federation, on the other hand, is described as "an indestructible Union of indestructible states".
- **Option (b) is correct:** The seats are allotted to the states in the Rajya Sabha on the basis of population. Hence, the number of representatives varies from state to state. For example, Uttar Pradesh has 31 members while Tripura has 1 member only. However, in the USA, all states are given equal representation in the Senate irrespective of their population. USA has 50 states and the Senate has 100 members—2 from each state.
- **Option (c) is not correct:** The Indian federal system is based on the 'Canadian model' and not on the 'American model'.
- **Option (d) is correct:** The Constitution stipulates three types of emergencies—national, state, and financial. During an emergency, the Central government becomes all-powerful and the states go into total control of the Centre. **It converts the federal structure into a unitary one without a formal amendment of the Constitution.**

Q 24.D

- Some of the prominent Early Political Associations played very important role in arousing general will and laying down a path towards modern Nationalism. These include:
  - **British Indian Association** was created after amalgamating the "Landholders Society" and "British India Society" on **31 October 1851.** This was the first political organization that brought the Indians

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together. The President of the first committee of this organization was Raja Radhakanta Deb, while Debendranath Tagore was its secretary. The newspaper of this society was "Hindu patriot" which adopted a strongly critical political tone.

- **The earliest political organisation, the Madras Native Association was started in July 1852.** Lakshminarasu Chetty and Srinivasa Pillai were the founders of this organization. The Madras Native Association was sharply critical of the policies of the East India Company's rule. Subsequently in 1884, the Madras Mahajana Sabha was established by M. Veeraraghavachariar, G. Subramania Iyer and P. Anandacharlu. The Madras Native Association was ultimately merged with this organization.
- **The East India Association was founded by Dadabhai Naoroji in 1866**, in collaboration with Indians and retired British officials in London. It superseded the London Indian Society and was a platform for discussing matters and ideas about India, and to provide representation for Indians to the Government. Naoroji delivered the first lecture to the Association on 2 May 1867.
- **Poona Sarvajanik Sabha was a sociopolitical organisation** in British India that started with the aim of working as a mediating body between the government and people of India and to popularise the peasants' legal rights. **It started as an elected body of 95 members elected by 6000 persons on April 2, 1870.** The organisation was a precursor to the Indian National Congress which started with its first session from Maharashtra itself. In 1875 the Sabha sent a petition to the House of Commons demanding India's direct representation in the British Parliament.
- **Hence, option (d) is the correct answer.**

Q 25.D

- A democratic polity can be classified into two categories
  - **Monarchy**
    - ✓ In a monarchy, the **head of the state enjoys a hereditary position**, that is, he comes into office through succession, eg, Britain. Whereas the **Head of Government is elected**. **Hence, option 1 is correct.**
  - **Republic**
    - ✓ In a republic, on the other hand, the **head of the state is always elected** directly or indirectly for a fixed period, eg, USA.
    - ✓ Therefore, the term 'republic' in our Preamble indicates that India has an elected head called the president. He is elected indirectly for a fixed period of five years.
  - A republic also means two more things: one, vesting of political sovereignty in the people and not in a single individual like a king. **Hence option 2 is correct.**
  - the absence of any privileged class and hence all public offices being opened to every citizen without any discrimination. **Hence option 3 is correct.**

Q 26.D

- **Mara Vijaya of Ajanta Cave:** The theme of Mara Vijaya has been painted in the caves of Ajanta. This is the only sculptural representation sculpted on the right wall of **Cave No. 26.** It is sculpted near the colossal Buddha image of Mahaparinibbana. The **panel shows the image of the Buddha in the center surrounded by Mara's army along with his daughter.** The event Is part of the enlightenment. According to the narrative, there is a dialogue between the Buddha and Mara, and the Buddha is shown with his right hand indicating towards earth as a witness to his generosity.
- **Didarganj Yakshini:** The Didarganj Yakshini is one of the finest examples of very early Indian stone statues. It used to be dated to the **3rd century BCE**, as it has the **fine Mauryan polish** associated with Mauryan art. The **figure is 64" tall, carved out of a single piece of stone**. The life-size standing image of a **Yakshini holding a chauri (flywhisk) from Didargunj near modern Patna**. It is a tall, well-proportioned, free-standing sculpture in the round made in sandstone with a polished surface. The **chauri is held in the right hand** whereas the **left hand is broken.** The sculptor's sensitivity towards the round muscular body is clearly visible. The face has round, fleshy cheeks, while the neck is relatively small in proportion; eyes nose, lips are sharp. The necklace beads are in full round, hanging to the belly.
- **Image of Maheshmurti:** The image of Maheshmurti **at Elephanta dates back to the early sixth century CE.** It is located in the main cave shrine. In the tradition of western Deccan sculpting, it is one of the best examples of qualitative achievement in sculpting images in rock-cut caves. The image is large in size. The **central head is the main Shiva figure whereas the other two visible heads are of Bhairava and Uma.** The central face is in high relief having a round face, thick lips, and heavy eyelids. The **face of Shiva-Bhairava is clearly shown in profile in anger with bulging eyes and mustache**. The other face showing feminine characters is of Uma who is the consort of Shiva.
- **Hence option (d) is the correct answer.**

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Q 27.C

- **What is a limiting factor?**
  - "Common limiting factor resources are environmental conditions that limit the growth, abundance, or distribution of an organism or a population of organisms in an ecosystem. The limiting factor also causes competition between individuals of a species population."
- **Tropical rainforests:**
  - They are home to more than half of the world's plants and animals. As a limiting factor, water plays a crucial role in shaping various biomes of the world. Camels can go without water for a considerable time, but tigers can't. Therefore, camels thrive in deserts where it is impossible for tigers to survive. In the same manner, tree species that grow in rainforests need more water than those that grow in savannas, which is why these species are found in abundance in rainforests.
- **Limiting Factors in Rainforests**
  - In the rainforest biome, there is no dearth of resources. There is ample rainfall, and the temperature is warm and stable throughout. In terms of biodiversity, rainforests are only second to oceans. So, food availability is seldom an issue. Simply put, the rainforest ecosystem has very few limitations, and the most prominent among them is sunlight and soil.
  - That **sunlight is a limiting factor in rainforests** may come as a surprise considering that the biome largely lies in tropical and temperate areas and is full of lush green vegetation. But, it's a fact. In rainforests, sunlight is typically restricted to the canopy layer—the second layer after the emergent layer. As the canopy layer blocks sunlight, the forest floor receives less than two percent of the same. This, in turn, limits the growth of plants in the understory. The vegetation here can be best defined as sparse. Only hardy species grow in this layer of the rainforest, if at all. **Hence, statement 2 is correct.**
  - Yet another prominent limiting factor in rainforests will be **poor soil.** Once again, the characteristic lush growth of vegetation in this biome may make you believe otherwise, but the fact is that the **soil in the rainforest biome is highly nutrient-deficient, as the nutrients released into the soil are quickly absorbed by the plant species.** Besides, the characteristic heavy rainfall in rainforests is **also known to leach the soil of its nutrients. Hence, statement 1 is correct.**
- **Other Limiting Factors**
  - Both sunlight and soil are density-independent limiting factors, meaning their effects on the species are not dependent on the density of a said species. Additionally, there exist density-dependent factors, the effects of which are directly dependent on the density of population of the species. These include **competition and predation.**
  - Like we said earlier, biodiversity levels in the rainforest are pretty high, which can be attributed to the fact that the environment in this biome is not harsh as in the case of deserts or tundras. The **high level of biodiversity reflects in the form of competition.** Even decomposers compete fiercely for forest floor litter and the remains of dead animals, such that a leaf that might otherwise take a year to decompose, disappears in six weeks on a rainforest floor.
  - **As for predation, the number of carnivores and herbivores in this biome are closely related**, such that any fluctuation in the population of either group immediately reflects on the population of the other. This is important to keep the population of both sides stable. At times, a particular disease can also act as a density-dependent limiting factor in the rainforest ecosystem.
  - More recently, **human activities in the form of logging and slash-and-burn agriculture** have started to show their effects on the rainforest ecosystem.

Q 28.B

- **The Earth Biogenome Project is a global consortium that aims to sequence the genomes of all complex life on Earth (some 1.8 million described species) in ten years.**
- The project was first proposed in 2016 and was officially launched in 2018. It is an initiative of a global consortium of various organizations and initiatives
  - **There are currently 44 affiliated institutions in 22 countries working on the Earth Biogenome Project.** There are also 49 affiliated projects, including enormous projects such as the California Conservation Genomics Project, the Bird 10,000 Genomes Project, and the UK's Darwin Tree of Life Project, as well as many projects on particular groups such as bats and butterflies. **Hence, statement 3 is not correct.**
- **The Earth BioGenome Project (EBP), a moonshot for biology, aims to sequence, catalog, and characterize the genomes of all of Earth's eukaryotic biodiversity over a period of ten years. Hence, statement 1 is correct.**
- The aim of phase one is to sequence one genome from every taxonomic family on earth, some 9,400 of them. By the end of 2022, one-third of these species should be done. Phase two will see the sequencing of a representative from all 180,000 genera, and phase three will mark the completion of all the species.

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- **Earth BioGenome Project (EBP) will also help in exploring the "dark matter" of the genome, and reveal how DNA sequences that do not encode proteins can still play a role in genome function and evolution.**
    - The human genome is conventionally divided into the "coding" genome, which generates the ~20,000 annotated human protein-coding genes, and the "dark" genome, which does not encode proteins. **The dark genome is a vast space, accounting for the ~98.5% of genomic space where repeat elements, enhancers, regulatory sequences, and non-coding RNAs reside. Hence, statement 2 is correct.**

Q 29.B

- **Mudiyettu,** a traditional folk **theatre form of Kerala** is celebrated in the month of Vrischikam (November-December). It is usually performed only in the **Kali temples of Kerala, as an oblation to the Goddess**. It depicts the triumph of goddess Bhadrakali over the asura Darika. The seven characters in Mudiyettu-Shiva, Narada, Darika, Danavendra, Bhadrakali, Kooli, and Koimbidar (Nandikeshvara) are all heavily made-up. Mudiyettu serves as an important cultural site for the transmission of traditional values, ethics, moral codes, and aesthetic norms of the community to the next generation, thereby ensuring its continuity and relevance in present times has been **included in the list of UNESCO's intangible cultural heritage of Humanity. Hence option (b) is the correct answer.**
- **Koodiyaattam**, one of the oldest traditional theatre forms of Kerala, is based on Sanskrit theatre traditions. The characters of this theatre form are Chakyaar or actor, Naambiyaar, the instrumentalists, and Naangyaar, those taking on women's roles. The Sutradhar or narrator and the Vidushak or jesters are the protagonists. It is the Vidushak alone who delivers the dialogues. Emphasis on hand gestures and eye movements makes this dance and theatre form unique.
- **Therukoothu,** the most popular form of folk drama of Tamil Nadu, literally means "street play". It is mostly performed at the time of the annual temple festivals of Mariamman (Rain goddess) to achieve a rich harvest. At the core of the extensive repertoire of Therukoothu there is a cycle of eight plays based on the life of Draupadi. Kattiakaran, the Sutradhara of the Therukoothu performance, gives the gist of the play to the audience and Komali entertains the audience with his buffoonery.
- **Dashavatar** is a popular form of theatre with a history of eight hundred years. The term Dashavatar refers to the ten incarnations of Lord Vishnu, the Hindu God of preservation. It is performed in the state of Goa.

Q 30.B

- The original home of the Satavahanas was somewhere in the Deccan, and most likely they belonged to the Andhra territory. Because the Puranas described them as the Andhras. In other words, though the Dynasty became famous as the Satavahana, they were the inhabitants of Andhra. The Andhras were no doubt one of the most famous races of ancient India.
- **Yajna Sri Satakarni was an Indian ruler of the Satavahana dynasty.** He is considered to be the last great king of the Satavahana dynasty. He regained some of the territory lost to Shakas. He **defeated the Shakas and reconquered their southern regions of the Konkan and the Malwa.** He was a lover of trade and navigation. His coins have been found not only in Andhra but also in Maharashtra, Madhya Pradesh, and Gujarat. His love for navigation and overseas trade is shown by the representation of a ship on his coins. **Hence option (b) is the correct answer**
- **Gautamiputra Satakarni Brahmi** was a ruler of the Satavahana Empire in the present-day Deccan region of India. He was mentioned as the important and greatest ruler of the Satavahana Dynasty. **He called himself the only brahmana.** He claims to have destroyed the Kshaharata lineage to which his adversary Nahapana belonged.
- **Vasishthiputra Pulumayi was a Satavahana king,** and the son of Gautamiputra Satakarni. He setup the **capital at Paithan or Pratishthan on the Godavari in Aurangabad district.**
- **Rudradaman I was a Saka ruler from the Western Kshatrapas dynasty.** He was the grandson of king Chastana. Rudradaman I was instrumental in the decline of the Satavahana Empire. Rudradaman I took up the title of Maha-kshtrapa ("Great Satrap") after he became the king and then strengthened his kingdom.

Q 31.C

- **Article 246** of the Indian Constitution provides for the **three fold distribution** of legislative powers between Union and States. The Indian Constitution adopts this threefold distribution from the **Government of India Act of 1935**. **Hence statement 1 is correct.**
- The distribution of legislative powers between the Centre and the states is **rigid**. Consequently, the Centre cannot delegate its legislative powers to the states and a single state cannot request the Parliament to make a law on a state subject.

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- The Constitution expressly secures the predominance of the Union List over the State List and the Concurrent List and that of the Concurrent List over the State List.
  - Thus, in case of overlapping between the Union List and the State List, the former should prevail.
  - In case of overlapping between the Union List and the Concurrent List, it is again the former which should prevail.
  - Where there is a conflict between the Concurrent List and the State List, it is the former that should prevail. **Hence statement 2 is not correct.**
  - There is one exception to above rule as mentioned in **Article 254(2)**. If the State law on the matter of concurrent list is reserved for the assent of President of India and has recieved such assent, the State law may oveeride the existing law of Parliament on that matter. However, it is still be competent for Parliament to overide such State law by fresh legislation. **Hence Statement 3 is not correct.**

Q 32.A

- **Pair 1 is not correctly matched: On 30 September 1932, Gandhi founded All India Anti Untouchability League, to remove untouchability** in society, which was later renamed Harijan Sevak Sangh ("Servants of Harijan Society"). At the time industrialist, Ghanshyam Das Birla was its founding president with Amritlal Takkar as its Secretary.
- **Pair 2 is correctly matched:** All India Kisan Sabha is a peasant front working for the rights of the farmers and the anti-feudal movement in India. **It was founded in 1936 by Swami Sahajanand Saraswati** at the Indian National Congress (INC) Lucknow Session as All India Kisan Congress.
- **Pair 3 is not correctly matched:** The Independent Labour Party (ILP) was a political Organisation formed under the leadership of B. R. Ambedkar on 15 August 1936. It opposed the Brahmanical and capitalist structures in India, supported the Indian working class and sought to dismantle the caste system. **In April 1942 he wound up the Independent Labour Party and founded the All India Scheduled Castes Federation** with Rao Bahadur N. Shivaraj as its President.

Q 33.C

- According to the **directions of Supreme Court in 2013**, the Election Commission made provision in the ballot papers / EVMs for None of the Above (NOTA) option so that the voters who come to the polling booth and decide not to vote for any of the candidates in the fray, are able to exercise their right not to vote for such candidates while maintaining the secrecy of their ballot.
  - A Bench led by Chief Justice of India (CJI) Dipak Misra in 2018, held that the **NOTA option is meant only for universal adult suffrage** and direct elections and not polls held by the system of proportional representation by means of the single transferable vote as done in the Rajya Sabha.
- In 2010, a provision was made by **Representation of the People (Amendment) Act, 2010, with effect from February 10, 2011** to confer voting rights to the citizens of India residing outside India due to various reasons.
  - Accordingly, every citizen of India – (a) whose name is **not included** in the electoral roll (b) who has **not acquired** the citizenship of any other country (c) who is absent from his place of ordinary residence in India owing to his **employment, education or otherwise** outside India shall be entitled to have his name registered in the electoral roll in the Parliamentary / Assembly constituency
- In 2013, two new provisions have been included in the Representation of the People Act, 1951. The first provision expressly provides that by reason of the prohibition to vote (either due to in jail or in police custody), a person whose name has been entered in the electoral roll **shall not cease** to be an elector.
- In 2013, the Supreme Court in **Lily Thomas vs. Union of India Case** held that chargesheeted Members of Parliament and MLAs, on conviction for offences, will be **immediately disqualified** from holding membership of the House without being given three months' time for appeal, as was the case before.

Q 34.C

- **National Ambient Air Quality Standards (NAAQS)**
  - The NAAQS set by the CPCB are applicable to the whole country. The CPCB draws this power from the Air (Prevention and Control of Pollution) Act, 1981.
  - These standards are essential for the development of effective management of ambient air quality.
  - The first ambient air quality standards were developed in 1982 pursuant to the Air Act.
  - Later, in 1994 and 1998, these standards were revised. The latest revision to the NAAQS was done in 2009 and this is the latest version being followed.
  - The 2009 standards further lowered the maximum permissible limits for pollutants and made the standards uniform across the nation. Previously, industrial zones had less stringent standards as compared to residential areas.

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- The compliance of the NAAQS is monitored under the National Air Quality Monitoring Programme (NAMP). NAMP is implemented by the CPCB.
- The current standards (2009) comprise 12 pollutants as follows: **Particulate Matter 10 (PM10), Particulate Matter 2.5 (PM2.5 , Nitrogen Dioxide (NO2), Sulphur Dioxide (SO2), Carbon Monoxide (CO), Ozone (O3), Ammonia (NH3),Lead (Pb), Benzene, Benzopyrene, Arsenic, Nickel. Hence, option (c) is correct answer.**

Q 35.C

- The speed of light in vacuum is a universal constant independent of all the factors listed and anything else. In particular, note the surprising fact that it is independent of the relative motion between the source and the observer. This fact is a basic axiom of Einstein's special theory of relativity.
- The speed of **light in a vacuum** which is 3×108m/s is a universal constant.
- When light traveling through the air enters a different medium, such as glass or water, **the speed and wavelength of light are reduced, although the frequency remains unaltered (speed of light = frequency X wavelength).** Light travels at approximately 300,000 kilometers per second in a vacuum, which has a refractive index of 1.0, but it slows down to 225,000 kilometers per second in water (refractive index of 1.3) and 200,000 kilometers per second in glass (refractive index of 1.5).
- **Hence option (c) is the correct answer.**

Q 36.D

- **A 1,000-year-old sandstone sculpture of the reclining Lord Vishnu has been restored by Indian National Trust for Art and Culture Heritage.**
- The statue is situated in Bandhavgarh National Park (Madhya Pradesh). **Hence option (d) is the correct answer**.
  - Bandhavgarh National Park: Declared in 1968 as National Park.
  - It is Situated in central Indian highlands between the Vindhya mountain hill range and the eastern flank of Satpura hill range. Vegetation: northern dry mixed deciduous forest dry deciduous scrub dry grassland and west Gangetic moist mixed deciduous forest.Forest corridor connectivity of Bandhavgarh with other protected areas like Sanjay-Dubri Tiger Reserve, Achanakmar Tiger Reserve, and Kanha Tiger Reserve
- Popularly known as Shesh Shaiyya, the sculpture belongs to the Kalchuri period (8th century, feudatories of the Rashtrakutas at central part of India).

Q 37.D

- **Statement 1 is correct:** The Blue Flag certification is one of the world's most recognised voluntary awards for beaches, marinas, and sustainable boating tourism operators. In order to qualify for the Blue Flag, a series of stringent environmental, educational, safety, and accessibility criteria must be met and maintained.
- **Statement 2 is correct:** Central to the ideals of the Blue Flag programme is the aim of connecting the public with their surroundings and encouraging them to learn more about their environment. As such, environmental education activities must be offered and promoted in addition to a permanent display of information relevant to the site in terms of biodiversity, ecosystems and environmental phenomena.
- **Statement 3 is correct:** The Kovalam beach in Chennai and Eden beach in Puducherry have now been awarded the prestigious "Blue Flag" certification, an international eco-level tag taking the number of such beaches in the country to ten.

Q 38.C

- **Recent context**: Centre eased Norms for Re-issue of Overseas Citizens of India (OCI) Cards. They will not be required to register for a fresh OCI card every time a new passport is issued in their name.
- **About OCI**
  - OCI citizens are of Indian origin but they are foreign passport holders and are not citizens of India.
  - A foreign national, who was eligible to become a citizen of India on 26.01.1950 or was a citizen of India on or at any time after 26.01.1950 or belonged to a territory that became part of India after 15.08.1947 is eligible for registration as OCI.
  - However, if the applicant had ever been a citizen of Pakistan or Bangladesh, he/she will not be eligible for OCI.
- **Benefits OCI cardholder is entitled to:**
  - Multiple entry lifelong visa for visiting India for any purpose.

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- Exempted from registration with Foreign Regional Registration Officer or Foreign Registration Officer for any length of stay in India. **Hence option (c) is correct.**
- **Parity with Non-Resident Indians (NRIs)** in the adoption of children, appearing in competitive exams, purchase or sale of immovable property barring agricultural land and farmhouses, and pursuing professions such as doctors, lawyers, architects, and chartered accountants.
- They can appear for all-India entrance tests such as National Eligibility cum Entrance Test (NEET), Joint Entrance Examination (Mains), Joint Entrance Examination (Advanced), or such other tests to make them eligible for admission only against any Non-Resident Indian seat or any supernumerary seat. **However, OCI cardholders shall not be eligible for admission against any seat reserved exclusively for Indian citizens. Hence option (b) is not correct.**

- **Restrictions on OCI cardholders:**
  - Special permission is required to undertake research work, internship, or employment in any foreign diplomatic missions, foreign government organizations in India.
  - Not entitled to undertake Missionary, mountaineering, journalism, and Tabligh activities without prior permission.
  - Require protected area (PA) permit/ Restricted Area (RA) Permit to visit any place falling in PA/RA. **Hence, option (a) is not correct.**
  - Not entitled to vote, cannot hold the constitutional post. **Hence, option (d) is not correct.**
  - Not entitled for appointment to public services and posts in connection with affairs of Union or states.

Q 39.A

- The human digestive system consists of the alimentary canal and the associated glands. The main organs that make up the digestive system (in order of their function) are the mouth, esophagus, stomach, small intestine, large intestine, rectum and anus. Helping them along the way are the pancreas, gall bladder and liver.
- The small intestine is a long, narrow, folded or coiled tube extending from the stomach to the large intestine; it is the region where most digestion and absorption of food takes place. It is about 6.7 to 7.6 metres (22 to 25 feet) long, highly convoluted, and contained in the central and lower abdominal cavity.
- Absorption of substances takes place in different parts of the alimentary canal, like the mouth, stomach, small intestine and large intestine. **However, maximum absorption occurs in the small intestine. It is the principal organ for the absorption of nutrients. The digestion is completed here and the final products of digestion such as glucose, fructose, fatty acids, glycerol and amino acids are absorbed through the mucosa into the bloodstream and lymph.**
- **Hence, option (a) is correct answer.**

Q 40.C

- **Recent Context**: The West Bengal government has decided to set up a Legislative Council (Vidhan Parishad).
- **Under Article 169** of the Constitution, **Parliament can abolish a Legislative Council or create it by a simple majority**, that is, a majority of the members of each House present and voting, if the **legislative assembly of the concerned state, by a special majority, passes a resolution** to that effect. This Act of Parliament is not to be deemed as an amendment of the Constitution for the purposes of Article 368. **Hence, both statements 1 and 2 are not correct.**
- There are **six States having a Legislative Council**: Andhra Pradesh, Telangana, Uttar Pradesh, Bihar, Maharashtra, Karnataka.

Q 41.B

- **What is carrying capacity?**
  - The carrying capacity of a biological species in a particular habitat refers to the **maximum number of individuals (of that species) that the environment can carry and sustain, considering its geography or physical features. Hence option (b) is the correct answer.**
  - In ecology, carrying capacity is measured as the maximum load of an environment. The physical features present in the environment act as limiting factors (e.g. food, water, competition, etc.). Thus, the population limit can be expected to depend on these factors. In essence, food availability is an important variable as it affects the population size of the species. It does so in such a way that if food demand is not met over a given period of time the population size will eventually decrease until the resources become adequate. By contrast, when food supply exceeds demand then the population size will soon increase and will stop increasing when the source is consequently depleted.

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- Carrying capacity may also be defined as the population size at which the population growth rate equals zero. It should not be confused with the term, equilibrium population, which is defined as a population in which the gene frequencies have reached an equilibrium between mutation pressure and selection pressure.
- In archeology, carrying capacity pertains to the size and density of ancient populations as supported by a given region. (Ref.4) In this field of science, the maximum population over a particular period determines the carrying capacity of that environment. Studies on human history, though, provide evidence that the concept in which the human population size reaches the maximum level is relatively not that common. Most of the time, the population density of humans adjusts, especially as the actual food production fluctuates for that area or region.

- **Carrying Capacity of an Ecosystem**
  - Populations grow at a rate limited by the availability of the Earth's resources. A population may grow at a faster rate and follow a J-shaped curve. When the birth rate surpasses the death rate of the species, this results in exponential growth. However, this trend soon changes as resources become limited. The growth rate slows down.
  - Soon, it reaches a stable equilibrium where biomass in the given area seems unchanged over a certain period of time. At this point, the death rate appears to be compensated by the birth rate within a population. This means the per capita birth rate equals the per capita death rate. (Ref.2)
  - By contrast, when deaths appear to outgrow births, this indicates that the carrying capacity has been exceeded. This is a case of overshoot. The population may go below the carrying capacity. This can occur, for instance, during disease and parasitic outbreaks.
  - Several factors affect the carrying capacity of an ecosystem. These factors include food supply, water supply, habitat space, competition (intraspecific and interspecific), physical factors (e.g. extreme heat, drought, etc.), chemical factors (e.g. pH, mineral deficiency, etc.), and anthropogenic factors. The sum of these factors that end up restricting the biotic potential of a species is referred to as environmental resistance.

Q 42.D

- **Scheme of Fund for Regeneration of Traditional Industries (SFURTI) is an initiative by the Ministry of MSME to promote Cluster development. Hence statement 1 is correct.**
- Khadi and Village Industries Commission (KVIC) is the nodal agency for the promotion of Cluster development for Khadi.
- **OBJECTIVE OF THE SCHEME**
  - To organize the traditional industries and artisans into clusters to make them competitive and provide support for their long term sustainability
  - To provide sustained employment for traditional industry artisans and rural entrepreneurs by improving their skills and making their products marketable.
  - **WHO CAN APPLY-Non-Government Organizations (NGOs)**-Institutions of the Central and State Governments-Semi-Government institutions-Field functionaries of State and Central Govt.-Panchayati Raj institutions (PRIs). **Hence statement 2 is correct.**
- **PROJECT INTERVENTIONS**
  - The Scheme covers three types of interventions namely Soft Interventions, Hard Interventions and Thematic interventions.
  - **Soft Interventions**: General awareness, counselling, motivation and trust-building, Skill development and capacity building, Institution development, Exposure visits, Market promotion initiatives, **Design and product development**, Participation in seminars, workshops and training programmes on technology up-gradation etc.
  - **Hard Interventions**: Creation of facilities such as Multiple facilities for multiple products and packaging wherever needed, Common Facility Centres (CFCs), **Raw Material Banks (RMBs),** Up-gradation of production infrastructure, Tools and technology up-gradation, Warehousing facility, Training Centre, Value addition and processing Centre.
  - **Thematic Interventions:** Cross-cutting thematic interventions at the sector level including several clusters in the same sector with emphasis on both domestic and international markets. These will primarily include **brand-building and promotion campaigns,** new media marketing, e-Commerce initiatives and innovation. **Hence statement 3 is correct.**

Q 43.A

- **President has no constitutional discretion (unlike Governor)**, he has some situational discretion. In other words, the President can act on his discretion (that is, without the advice of the ministers) **under the following situations:**

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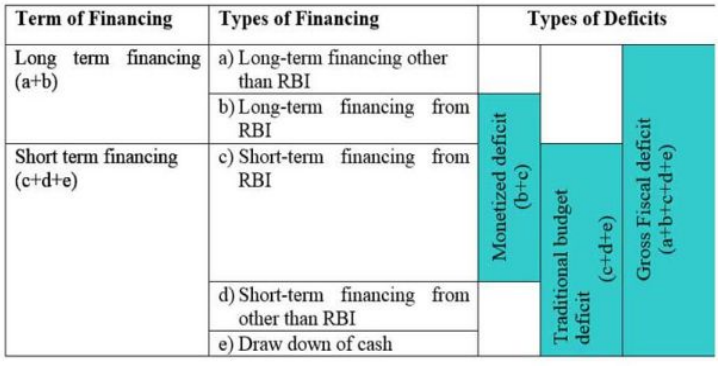
- Appointment of Prime Minister when no party has a clear majority in the Lok Sabha or when the Prime Minister in office dies suddenly and there is no obvious successor. **Hence statement 1 is correct.**
- Dismissal of the council of ministers when it cannot prove the confidence of the Lok Sabha.
- Dissolution of the Lok Sabha if the council of ministers has lost its majority.
- He can send back the advice given by the Council of Ministers and ask the Council to reconsider the decision. Though, has to comply with the advice on reconsideration. **Hence statement 2 is not correct.**

Q 44.C

- There are different measures of deficits in macroeconomics and each type of deficit measure carries a different macroeconomic meaning.
- Gross Fiscal Deficit is defined as the excess of the total expenditure of the government over the total non-debt creating receipts.
- Traditional Budget Deficit also referred to as simply 'budget deficit' is that part of the government's deficit that is financed through short-term borrowings. **These short-term borrowings may be from the RBI or from other sources. Normally, short-term borrowings from the RBI are through the net issuance of short-term treasury bills and by running down the central government's cash balances held by the RBI.**
- Monetized deficit Also known as the 'net reserve bank credit to the government', it is that part of the government deficit which is financed solely by borrowing from the RBI.



- **Hence, option (C) is the correct answer.**

Q 45.C

- **Depository Receipts or DRs are negotiable financial instruments that represent the publicly traded securities of a foreign company.** These receipts are issued by a bank and are traded on a local stock exchange. Here, it is important to note that the actual foreign company is neither listed nor traded on the exchange. The underlying shares would be held by another custodian bank in the home country of the company issuing the depository receipts. **Hence, statement 1 is correct.**
- DRs constitute an important mechanism through which issuers can raise funds outside their home jurisdiction. DRs are issued for tapping foreign investors who otherwise may not be able to participate directly in the domestic market.
- Depending on the location in which these receipts are issued they are called as ADRs or American Depository Receipts (if they are issued in USA on the basis of the shares/securities of the domestic (say Indian) company), IDR or Indian Depository Receipts (if they are issued in India on the basis of the shares/securities of the foreign company; Standard Chartered issued the first IDR in India) or in general as GDR or Global Depository Receipt.
- Thus, ADR or GDR are issued outside India by a foreign depository on the back of an Indian security deposited with a domestic Indian custodian in India (means a custodian or keeper of securities- an Indian depository, a depository participant, or a bank- and having permission from the securities market regulator, SEBI, to provide services as custodian).
- The American Depository Receipts or ADRs allowed American investors to purchase securities issued by companies outside the US. **Similarly, Indian investors can purchase securities of global companies through Indian Depository Receipts (IDRs). Hence, statement 2 is not correct.**
- In India any company - whether private limited or public limited or listed or unlisted - can issue DRs. However, listed DRs enjoy some tax benefits. **ADR /GDR issues based on shares of a company are considered as part of Foreign Direct Investment (FDI) in India,** though it is an indirect way of holding shares. **Hence, statement 3 is correct.**

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Q 46.D

- **Recently, there is an amendment in All India Services (Conduct) Rules, 1968** that will allow IAS, IPS, and IFoS officers to retain gifts received from foreign dignitaries while being members of the Indian delegation. Earlier there were no provisions under the AIS (Conduct) Rules, 1968, with regard to receipt/retention of gifts from foreign dignitaries. **Hence statement 1 is not correct.**
- Rules allow officers to accept gifts from their near relatives or from personal friends having no official dealings with them, on occasions such as weddings, anniversaries, funerals, and religious functions. However, they are supposed to report to the government if the value of such a gift exceeds ₹25,000 **(so, allows officers to accept gifts from their near relatives or from personal friends exceeding ₹25,000). Hence statement 2 is not correct.**
- Gifts include free transport, free boarding, free lodging or any other service or pecuniary advantage when provided by a person other than a near relative or personal friend having no official dealings with the officer but does not include a casual meal, casual lift, or other social hospitality.

Q 47.D

- The Finance Commission is a constitutional body that determines the method and formula for distributing the tax proceeds between the Centre and states, and among the states as per the constitutional arrangement and present requirements.
- **Under Article 280 of the Constitution**, the President of India is required to constitute a Finance Commission at an interval of five years or earlier.
- **The Finance Commission has a chairman and four members appointed by the President.** The government of India provides necessary support and manpower including a secretary to the commission to facilitate its work.
- **THE FINANCE COMMISSION (MISCELLANEOUS PROVISIONS) ACT, 1951 includes**
- **Qualifications** for appointment as, and the manner of selection of, members of the commission.
- Personal interest to disqualify members.
- **Disqualifications** for being a member of the Commission.
- Term of office of members and **eligibility for reappointment.**
- **Conditions of service and salaries and allowances of members. Hence statement 2 is correct.**
- **Procedure and powers of the Commission.**
- **The Constitution authorises the Parliament to determine the qualifications of members of the commission and the manner in which they should be selected.**
- Accordingly, the **parliament has specified the qualifications of the chairman and members of the commission**.
- The **Chairman of the Commission shall be selected from among persons who have had experience in public affairs,**
- and the four other members shall be selected from among persons who(a) are, or have been, or are qualified to be appointed as Judges of a High Court, or (b) have special knowledge of the finances and accounts of Government, or (c) has had wide experience in financial matters and in administration; or (d) have special knowledge of economics.
- **Disqualifications for being a member of the Commission.**
- A person shall be disqualified for being appointed as, or for being, a member of the Commission,(a) if he is of unsound mind;(b) if he is an undischarged insolvent;(c) if he has been convicted of an offence involving moral turpitude;(d) if he has such financial or other interest as is likely to affect prejudicially his functions as a member of the Commission. **Hence statement 1 is correct.**
- **Term of office of members and eligibility for reappointment. Hence statement 3 is correct.**
- Every member of the Commission shall hold office for such period as may be specified in the order of the President appointing him, but shall be eligible for reappointment: Provided that he may, by letter addressed to the President, resign his office.
- **The Commission shall determine their procedure and in the performance of their functions shall have all the powers of a civil court under the Code of Civil Procedure**, 1908 (5 of 1908), while trying a suit in respect of the following matters, namely:(a) summoning and enforcing the attendance of witnesses;(b) requiring the production of any document;(c) requisitioning any public record from any court or office, **Hence statement 4 is correct.**

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Q 48.A

- To understand the richness of biodiversity across World Heritage marine sites, UNESCO launched a project called eDNA to protect and preserve biodiversity.
  - **Environmental DNA (eDNA) is nuclear or mitochondrial DNA that is released from an organism into the environment. Sources of eDNA include secreted feces, mucous, gametes, shed skin, hair, and carcasses.**
- UNESCO said that the two-year initiative would help measure the vulnerability of marine biodiversity to climate change and its impact on the distribution and migration patterns of marine life across World Heritage sites.
- The eDNA project, which involves collecting and analyzing samples from the environment – such as soil, water and air – rather than an individual organism, will also better monitor and protect endangered species included in the International Union for Conservation of Nature (IUCN) Red List.
- **Hence, option (a) is the correct answer.**

Q 49.C

- **'Sufism' is a term used to refer to mystical religious ideas in Islam.** It had evolved into a well-developed movement by the 11th century. Sufis, stress the importance of traversing the path of the Sufi pir enabling one to establish a direct communion with the divine.
- The word silsila meant chain and it represented signifying **an unbreakable chain between the pir and the murid.**
- The different silsilahs (order) are - **The Chishti Silsilah, The Suhrawardi Silsilah, Naqshbandi Silsilah, The Qadri Silsilah.**
- **The Chisti Silsilah - T**he Chisti Order was established in India by **Muinuddin Chishti (Khwaja Muinuddin)**. He seems to have moved into India after the invasion of Muizzuddin Muhammad Ghori and subsequently to Ajmer in 1206.
- **The fame of Khwaja Muinuddin grew after his death in 1235, his grave was visited by Muhammad Tughlaq. Hence statement 1 is not correct.**
- **The Suhrawardi Silsilah -** This Silsilah was founded by Shihabuddin Suhrawardi in Baghdad. **It was established in India by Bahauddin Zakariya.**
- His ways were different from that of the Chishtis. The Suhrawardis, unlike the Chishtis, accepted, maintenance grants from the Sultans.
- **They believed that a Sufi should possess the three attributes of property, knowledge and hal or mystical enlightenment. Hence statement 2 is correct**.
- Practices like bowing before the sheikh, presenting water to visitors and tonsuring the head at the time of initiation into the Order that the Chishtis had adopted were rejected.
- **After his death, the silsilah continued to play an important role in Punjab and Sindh. Hence statement 3 is correct.**

Q 50.C

- **The Gadgil Mukherjee formula was evolved in 1969 for determining the allocation of central assistance for state plans in India. It was adopted for distribution of plan assistance during Fourth and Fifth Five Year Plans.**
- The Gadgil Formula comprising (i) Population [60%] (ii) Per Capita Income (PCI) [10%] (iii) Tax Effort [10%] (iv) On-going Irrigation & Power Projects [10%] and (v) Special Problems [10%] was used during 4th FYP (1969-74) and 5th FYP (1974-78). However, since item (iv) was perceived as being weighted in favour of rich states, the formula was modified by raising the weightage of PCI to 20%.
- Due to reservations of State Governments on revision, a Committee under Shri Pranab Mukherjee, then Deputy Chairman, Planning Commission was constituted to evolve a suitable formula. The suggestions made by the Committee were considered by NDC in December 1991, where following a consensus, the Gadgil-Mukherjee Formula was adopted. It was made the basis for allocation during 8th FYP (1992-97) and it has since been in use.
- After setting apart funds required for (a) Externally Aided Projects and (b) Special Area Programme, 30% of the balance of Central Assistance for State Plans is provided to the Special Category States. The remaining amount is distributed among the non-Special Category States, as per Gadgil-Mukherjee Formula.
- **Hence, option (c) is the correct answer.**

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Q 51.C

- **Free Trade Warehousing Zones (FTWZs) are Deemed Foreign Territories / Ports / Warehouse for Storage and Other value-added activities under the Customs Law. FTWZ units are allowed to hold inventory on behalf of Foreign Suppliers/ Domestic Buyers.**
- FTWZ law allows multiple transfers of ownership transactions without removal of the goods out of FTWZ, thus ensuring the trading chain to be as close as possible and as may be required, ensuring that there is no cascade of indirect taxes/compliance and avoiding an increase in transaction cost.
- Units operating in the FTWZ enjoy the following benefits:
  - **They can import goods duty-free and warehouse them in the FTWZ; they can re-export these goods without paying duty. Hence statement 1 is correct.**
  - They can also procure goods free of excise duties from the Indian market.
  - This facility is available for the goods the unit trades in, as well as for goods required for the development, operation and maintenance of the SEZ unit.
  - **Units enjoy 100% Income Tax exemption on export income under Section 10AA of the Income Tax Act, 1961 for the first 5 years of operation, 50% for the next 5 years and 50% of the ploughed back export profit for the next 5 years.**
  - SEZ units can also have external commercial borrowing up to the US $ 500 million in a year without any maturity restriction, through recognized banking channels.
- **FTWZ units are exempted from Central Sales Tax.** They also enjoy exemption from Service Tax for all activities in the FTWZ (including labour, rentals, etc.).
- Products from India entering the FTWZ are treated as deemed export providing immediate benefits to suppliers
- Indian companies exporting into FTWZ are able to count the exports against their export quotas
- FTWZ units also have single-window clearance for Central and State level approvals.
- There is also an exemption from VAT for procurement from India.
- The shared warehousing and equipment in the FTWZ reduce expenses.
- The availability of onsite Customs means reduced time for Customs clearances.
- **The improved logistics and connectivity lead to reduced delivery times. Units can be set up in the FTWZ by foreign companies with 100% FDI under the automatic route. Hence statement 2 is correct.**
- **All transactions in an FTWZ are only in convertible foreign currency. Hence statement 3 is correct.**

Q 52.C

- **Bijolia peasant movement or the Bijolia Kisan satyagraha forms an integral part of the modern history of Rajasthan.**
- **It was led by iconic personalities like Vijay Singh Pathik, Manakya Lal Verma and Sadhu Sitaram Das, among others. The movement took place in three phases, first from 1897 to 1915, then from 1916 to 1923 and finally from 1923 to 1941.**
  - In 1916, Bhoop Singh now known as Vijay Singh Pathik entered the Bijolia estate and gave a definitive turn to the peasant movement, which later on served as an inspiration for the Champaran satyagraha launched by Mahatma Gandhi.
  - Bhoop Singh along with Bhai Balmukund also organized and expanded the revolutionary movement in Rajasthan. During the planned Ghadar Mutiny of 1915, Bhoop Singh was given the responsibility of capturing Ajmer, Beawar and Nasirabaad cantonments.
- **The epicentre of the uprising was the feudal estate of Bijolia, located in the former princely state of Mewar, from where it spread to neighbouring princely states.**
- At the time of this movement, almost 62% of the total land of modern-day Rajasthan was controlled by jagirdars or feudal landlords.
- The Bijolia estate was made up of 83 villages and the residents of the estate were literally at the mercy of the feudal overlord, the jagirdar. Besides the stipulated revenue, which amounts to anything from one-fourth to one-half of the total produce, the peasants were supposed to pay at least 86 different types of additional taxes and perform labour. The extent of the exploitation experienced by Bijolia's peasants in their everyday life and for their day-to-day activities can be ascertained from certain types of exorbitant taxes that were imposed upon them.
- The peasants had to pay a certain amount to the jagirdar on every festive occasion, for harvesting, whenever they had a birthday or wedding ceremonies, and for collecting firewood.
  - They were also supposed to pay for any personal ceremony that was organised by the jagirdar, the owner of the estate.

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- Even the cost of post-death rituals of the jagirdar was extracted from the peasants. If they failed to pay any of these taxes or levies, peasants were harassed and punished publicly.

- It was in the backdrop of this culture of extreme oppression that peasants of Bijolia decided to resist.
- **Hence, option (c) is the correct answer.**
- **Additional Information**
- **Rangpur Dhing** or uprising was a formidable peasant uprising against the rule of the East India Company. Several factors may be assigned to the Rangpur uprising of 1783.
  - The Rangpur uprising took place because the burden of revenue placed was high on both zamindars and ryots. In this uprising, both ryots and the zamindars combined to rebel against the company.
- **Bundi peasant movement took place in present-day Rajasthan against high revenue demand.**

Q 53.A

- Defence Research and Development Organisation (DRDO) and Indian Air Force (IAF) flight-tested the indigenously designed and developed Helicopter launched Stand-off Anti-tank (SANT) Missile from Pokhran ranges on December 11, 2021. **Hence, statement 2 is not correct.**
- **The missile is equipped with a state-of-the-art MMW seeker which provides high precision strike capability from a safe distance. The weapon can neutralize targets in a range of up to 10 km. Hence, statement 1 is correct.**
  - The Millimetre-Wave Seeker (MMW) is capable of working under all weather conditions, day and night, and has attracted increasing popularity.
- The SANT missile has been designed and developed by Research Centre Imarat (RCI), Hyderabad in coordination with other DRDO labs and participation from industries.
- This is the third in the series of indigenous stand-off weapons to be tested in recent times after long-range bombs and smart anti-airfield weapons for strengthening the arsenal of IAF.

Q 54.D

- Ministry for Environment, Forest, and Climate Change added two new sites i.e., Bakhira Wildlife Sanctuary – Utter Pradesh and Khijadia Wildlife Sanctuary- Gujrat under Ramsar Sites (Wetlands of International importance) on World Wetlands Day on 2 February 2022. **Hence option (d) is the correct answer.**
- **Bakhira Wildlife Sanctuary,** a freshwater marsh in the Sant Kabir Nagar district (UP). It is an "eco-sensitive zone", protected under the Wildlife Protection Act (1972).
  - It is part of the Central Asian Flyway, a route that covers a large area of Eurasia – between the Arctic and Indian oceans – which large numbers of migratory birds regularly use.
  - It provides habitat for endangered Egyptian vultures, vulnerable greater spotted eagle, common pochard, wamp francolin, woolly-necked stork.
- **Khijadiya Wildlife Sanctuary** is a freshwater wetland near the coast of the Gulf of Kutch (Gujarat).
  - It provides habitat for endangered Pallas's fish-eagle, vulnerable common pochard, Dalmatian pelican, greylag goose, and common crane.

Q 55.B

- Originally, the Constitution of India did not make any provision with respect to the Special Officer for Linguistic Minorities. Later, the States Reorganisation Commission (1953-55) made a recommendation in this regard. Accordingly, the Seventh Constitutional Amendment Act of 1956 **inserted a new Article 350-B** in Part XVII of the Constitution.
- **Special Officer for Linguistic Minorities is appointed by the President of India.** It is his/her duty to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution. He would report to the President upon those matters at such intervals as the President may direct. The President should place all such reports before each House of Parliament and send them to the governments of the states concerned.
- **The Constitution does not specify the qualifications, tenure, salaries and allowances, service conditions, and procedure for removal of the Special Officer for Linguistic Minorities. Hence statement 1 is not correct and statement 2 is correct.**

Q 56.C

- **Charter Act of 1833**
  - It made the Governor-General of Bengal as the Governor-General of India and vested in him all civil and military powers.
  - It deprived the governor of Bombay and Madras of their legislative powers. The Governor-General of India was given exclusive legislative powers for entire British India.

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- It ended the activities of the East India Company as a commercial body, which became a purely administrative body. **Hence, pair 3 is correctly matched.**
- It attempted to introduce a system of open competition for the selection of civil servants. However, this provision was negated after opposition from the Court of Directors.

- **Charter Act of 1853**
  - It separated, for the first time, the legislative and executive functions of the Governor-General's council. It provided for the addition of six new members called legislative councilors to the council. In other words, it established a separate Governor-General's legislative council which came to be known as the Indian (Central) Legislative Council. **Hence, pair 1 is correctly matched.**
  - It introduced an open competition system of selection and recruitment of civil servants. The covenanted civil service was thus thrown open to the Indians also.
  - It introduced, for the first time, local representation in the Indian (Central) Legislative Council. Of the six new legislative members of the governor general's council, four members were appointed by the local (provincial) governments of Madras, Bombay, Bengal, and Agra.
- **Indian Councils Act of 1861**
  - It made a beginning of representative institutions by associating Indians with the law-making process. It thus provided that the viceroy should nominate some Indians as non-official members of his expanded council.
  - It initiated the process of decentralization by restoring the legislative powers to the Bombay and Madras Presidencies. It thus reversed the centralizing tendency that started from the Regulating Act of 1773 and reached its climax under the Charter Act of 1833.
  - It also gave recognition to the 'portfolio' system, introduced by Lord Canning in 1859. Under this, a member of the Viceroy's council was made in-charge of one or more departments of the government and was authorized to issue final orders on behalf of the council on matters of his department(s).
  - **Under the Government of India Act of 1858**, the system of double government was ended by abolishing the Board of Control and Court of Directors. **Hence pair 2 is not correctly matched.**

Q 57.B

- The REPLACE action package provides a strategic approach to eliminating industrially-produced trans fat from national food supplies, with the goal of global elimination by 2023. **Hence option (b) is the correct answer.**
- REPLACE stands for:
  - **Re**view dietary sources of industrially-produced trans fat and the landscape for required policy change.
  - **P**romote the replacement of industrially-produced trans fat with healthier fats and oils.
  - **L**egislate or enact regulatory actions to eliminate industrially-produced trans fat.
  - **A**ssess and monitor trans-fat content in the food supply and changes in trans fat consumption in the population.
  - **C**reate awareness of the negative health impact of trans fat among policy-makers, producers, suppliers, and the public.
  - **E**nforce compliance with policies and regulations.

Q 58.A

- Nature loss is at the heart of many societal challenges, while nature-based solutions hold the potential to address interlinked crises: The pace of species extinction, global warming, the growing number of extreme weather events, and zoonotic diseases like Covid-19, has further reinforced the need to invest in sustainable action that enhances the resilience of ecosystems and addresses societal challenges, such as food security, climate change, water security, human health and enhanced resilience to disaster risk.
- **The state of finance for nature report calls for investments in nature-based solutions to triple by 2030 and to increase four-fold by 2050 from the current level. It is jointly published by the United Nations Environment Programme (UNEP), the World Economic Forum, and the Economics of Land Degradation (ELD).**
- It tracks global trends in public and private investment in nature-based solutions, aiming to improve data quality and identify opportunities for governments, businesses, and financiers.According to the report, while an increase in public funding would help plug some of the gaps, there needs to be a significant increase in private sector investment in Nature-based solutions.

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Q 59.A

- **Geological Survey of India (GSI) has initiated its flagship initiative of National Geoscience Data Repository (NGDR),** for collation of all the geoscience data of the country involving GSI, **other national organizations with geoscience as focused activities**, all the state directorate of mines and geology, t**he academia engaged in research and development in the domain**, the CPSEs engaged in the exploration and geoscientific pursuits, and private sector agencies working in the domain. **Hence statement 1 is correct and statement 2 is not correct.**
- It aims at integrating the collected data by GSI and similar organizations to build a repository on the digital medium entailing multiple user access.
- It is planned that all the stakeholders from India and across the globe who are willing to participate in the current auction regime for the allocation of mineral acreages will be able to use the NGDR.
- Further, the planned Baseline Geoscience Data Collection campaign would also lead to a huge database, which will be the primary inputs for future exploration programs.
- GSI is in consultation with BISAG-N, a national institute under the Ministry of Information & Technology for the development of NGDR.
- To expedite exploration activities in the country, the Geological Survey of India (GSI), has embarked upon an ambitious scheme to complete some major National level surveys by 2024: National Geochemical Mapping (NGCM), National Geophysical Mapping (NGPM), National Aero Geophysical Mapping Program (NAGMP).

Q 60.B

- The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases.
- Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of carbon dioxide (CO2).
- The larger the GWP, the more that a given gas warms the Earth compared to CO2 over that time period.
- **Carbon Dioxide (CO2), by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference.**
- **Methane (CH4) is estimated to have a GWP of 28–36 over 100 years.**
- Methane emitted today lasts about a decade on average, which is much less time than Carbon dioxide.
- But Methane also absorbs much more energy than Carbon Dioxide. The net effect of the shorter lifetime and higher energy absorption is reflected in the GWP. The CH4 GWP also accounts for some indirect effects, such as the fact that CH4 is a precursor to ozone, and ozone is itself a Green House Gas.
- **Nitrous Oxide (N2O) has a GWP 265–298 times that of CO2 for a 100-year timescale.**
- N2O emitted today remains in the atmosphere for more than 100 years, on average.
- **Hence option (b) is the correct answer.**

Q 61.C

- **The Institute of Chartered Accountants of India (ICAI) is a statutory body established by an Act of Parliament, viz. The Chartered Accountants Act, 1949 regulates the profession of Chartered Accountancy in the country.**
- The Institute, functions under the administrative control of the **Ministry of Corporate Affairs, Government of India. Hence statement 2 is correct.**
- **The ICAI is the second largest professional body of Chartered Accountants in the world**, with a strong tradition of service to the Indian economy in the public interest.
- **The Council constitutes of 40 members of whom 32 are elected by the Chartered Accountants and the remaining 8 are nominated by the Central Government** generally representing the Comptroller and Auditor General of India, Securities and Exchange Board of India, Ministry of Corporate Affairs, Ministry of Finance and other stakeholders. **Hence statement 1 is correct.**

Q 62.D

- **"London Convention": Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter**
  - The **"Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972"**, the "London Convention" for short, is one of the first global conventions to protect the marine environment from human activities and has been in force since 1975. Its objective is to promote the effective control of all sources of marine pollution and to take all practicable steps to prevent pollution of the sea by dumping of wastes and other matter. Currently, 87 States are Parties to this Convention. **Hence option (d) is the correct answer.**

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- In **1996, the "London Protocol"** was agreed to further modernize the Convention and, eventually, replace it. Under the Protocol, all dumping is prohibited, except for possibly acceptable wastes on the so-called "reverse list". The Protocol entered into force on 24 March 2006 and there are currently 53 Parties to the Protocol.
- **What are the purpose and objectives of the London Convention and Protocol?**
- The objective of the London Convention and Protocol is **to promote the effective control of all sources of marine pollution.** Contracting Parties shall take effective measures to prevent pollution of the marine environment caused by dumping at sea (see articles I and II of the Convention and Article 2 of the Protocol).
- The **purpose of the London Convention is to control all sources of marine pollution and prevent pollution of the sea through regulation of dumping into the sea of waste materials.**
- The purpose of the Protocol is similar to that of the Convention, but the Protocol is more restrictive: application of a "precautionary approach" is included as a general obligation; a "reverse list" approach is adopted, which implies that all dumping is prohibited unless explicitly permitted; incineration of wastes at sea is prohibited; export of wastes for the purpose of dumping or incineration at sea is prohibited. Extended compliance procedures and technical assistance provisions have been included, while a so-called transitional period allows new Contracting Parties to phase in compliance with the Protocol over a period of five years, provided certain conditions are met.

Q 63.B

- Kisan Credit Card is a pioneering credit delivery innovation for providing adequate and timely credit to farmers under a single window.
- It is a flexible and simplified procedure, adopting a whole farm approach, including short-term, medium-term, and long-term credit needs of borrowers for agriculture and allied activities and a reasonable component for consumption needs.
- Credit card and passbook or credit card cum passbook provided to eligible farmers facilitates revolving cash credit facility.
  - Any number of drawals and repayments within a limit, which is fixed on the basis of operational land holding, cropping pattern, and scale of finance can be made.
  - Each drawal has to be repaid within a maximum period of 12 months and the Card is valid for 3 to 5 years subject to annual review.
  - Conversion/reschedulement of loans is permissible in case of damage to crops due to natural calamities.
  - **The KCC holder has the option to take the benefit of Crop Insurance, Assets Insurance, Personal Accident Insurance Scheme (PAIS), and Health Insurance (wherever the product is available and have premium paid through his KCC account).** Necessary premium will have to be paid on the basis of the agreed ratio between bank and farmer to the insurance companies from KCC accounts. Farmer beneficiaries should be made aware of the insurance cover available and their consent is to be obtained, at the application stage itself. **Hence statement 3 is correct.**
- Kisan Credit Card (KCC) Scheme, which enables the farmers to purchase agricultural inputs such as seeds, fertilizers, pesticides, etc., and to draw cash to satisfy their consumption needs has since been simplified and converted into an **ATM enabled debit card** (Rupay KCC- RKCC). **Hence statement 1 is correct.**
- In order to extend the operational flexibility to **farmers engaged in Animal Husbandry and Fisheries,** the Government of India decided to extend the facilities of KCC to these farmers in the Budget 2018-19. **Hence statement 2 is not correct.**

Q 64.C

- India adopted the strategy of Import Substitution Industrialization Strategy (ISI) in the fifties. The chief objective was to build a self-reliant economy. From the Second Five Year Plan, there was a determined thrust towards substitution of basic and capital goods industries. **The ISI strategy was based on the model of growth as propounded by Mahalanobis. Hence, statement 1 is correct**
- The lopsided growth which was a legacy of the colonial period was sought to be set right by adopting ISI. **Deficiencies that were pronounced in the production of capital goods and basic intermediates were to be rectified by the import of machinery and critical intermediates.** This was based on the reasoning that the lack of industries producing investment goods could restrain high rates of investment and growth. **Hence, statement 2 is correct.**
- The Mahalanobis model stressed the significance of 'basic industries' for growth, and long-term patterns of growth were to be achieved by the utilization of the products of these industries.

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- The State was to play an active role in building a self-reliant economy, discriminating structure of protection was evolved to acquire foreign technology and for policies towards foreign investment.
- In the Second Plan, **the planners did not expect any significant increase in export earnings in the short run**; during this period, some domestic and trade policies added up to positive discrimination against exports; but they recognized 'that it is only after industrialization has proceeded some way, that increased production will be reflected in larger export earnings.

Q 65.A

- **Ala-ud-din (died 1316) was the second sultan of the Khalji dynasty of Delhi in India.** His totalitarian rule marked the beginning of the imperialistic period of the sultanate and the rise to power of native Indian Muslims.
- Alauddin Khalji made many reforms in the existing administration in order to avoid any kind of revolt against him. **The reforms included Revenue reforms, Market reforms, Social reforms, Agrarian reforms and Military reforms.**
- Apart from the control of the market, Alauddin took important steps in the field of land revenue administration. He was the first monarch in the Sultanat who insisted that in the doab, land revenue would be assessed on the basis of measuring the land under cultivation. This implied that the rich and the powerful in the villages who had more land could not pass on their burden to the poor.
- Alauddin wanted that the landlords of the area—called Khuts and muqaddams, should pay the same taxes as the others. **Thus, they had to pay taxes on milch cattle and houses like the others, and forgo other illegal cesses which they were in the habit of realizing. Hence statement 3 is not correct.**
- Alauddin sought to fix the cost of all commodities from foodgrains, sugar and cooking oil to a needle, and from costly imported cloth to horses, cattle, and slave boys and girls.
- For this purpose, **he set up three markets at Delhi—one market for foodgrains, the second for costly cloth, and the third for horses, slaves and cattle. Hence statement 2 is correct.**
- Each market was under the control of a high officer called Shahna who maintained a register of the merchants, and strictly controlled the shopkeepers and the prices.
- **Alauddin forced peasants to pay taxes in cash and he subsequently paid the army in cash.** Therefore, peasants used to sell their produce to Banjaras at lower prices. To ensure that there was no hoarding, all the banjaras were registered, and their agents and their family were held collectively responsible for any violations.
- **As a further check, the state itself set up warehouses and stocked them with food grains which were released whenever there was a famine or a threat of a shortfall in supply. Hence statement 1 is correct.**

Q 66.A

- **The Central Road Fund (CRF) is a non-lapsable fund created under Central Road Fund Act 2000. It is procured out of the out of cess/tax imposed by the Union Government on the consumption of Petrol and Diesel. Hence, statement 1 is correct.**
- Funds under CRF can be used to develop and maintain National Highways, State roads (particularly those of economic importance and which provides inter-state connectivity), rural roads, railway under/over bridges etc. **Hence, statement 2 is not correct.**
- The revenue collected is initially credited to the Consolidated Fund of India and after adjusting for the cost of collection, Parliament through its appropriation bill, credits such proceeds to the Central Road fund (CRF). The CRF is thereafter distributed amongst three Ministries i.e. Ministry of Rural Development, Ministry of Railways and Ministry of Road Transport and Highways in the manner prescribed under Section 10(viii) of the Central Road Fund Act, 2000.

Q 67.B

- The **Arakan Mountains** also known as the Rakhine Mountains, are a mountain range in western Myanmar, between the coast of Rakhine State and the Central Myanmar Basin, in which flows the Irrawaddy River.
- The **Bay of Bengal branch strikes the coast of Myanmar** and part of southeast Bangladesh.
- But the Arakan Hills along the coast of Myanmar **deflect a big portion of this branch towards the Indian subcontinent. Hence option (b) is the correct answer.**
- The monsoon, therefore, enters West Bengal and Bangladesh from the south and southeast instead of from the south-westerly direction.
- From here, this branch splits into two under the influence of the Himalayas and the thermal low is northwest India.

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- One branch of it moves westward along the Ganga plains reaching as far as the Punjab plains.
- The other branch moves up the Brahmaputra valley in the north and the northeast, causing widespread rains.
- Its sub-branch strikes the Garo and Khasi Hills of Meghalaya. Mawsynram, located on the crest of Khasi hills, receives the highest average annual rainfall in the world

Q 68.C

- Recently, the final political agreement on the Organisation for Economic Co-operation and Development's (OECD) Pillar One and Pillar Two proposals was recommended by the G20 in October 2021.
- The OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (IF) has agreed on a two-pillar the solution to address the tax challenges arising from the digitalization of the economy. **Hence statements 1 and 2 are correct.**
- Pillar One proposes that 'market jurisdictions' should be entitled to tax some of the profits generated in that country. This will be achieved by new nexus and profit allocation rules based on where goods or services are used or consumed.
  - The aim is for MNEs to pay some tax in the countries in which they do business, not just where they have their headquarters or establish corporate entities.
- Pillar Two is designed to ensure MNEs pay a minimum level of tax. After much debate, the minimum level has been set at 15%. **Hence statement 3 is correct.**
- Two pillars' solutions were agreed **upon by 137 countries including India.** It was formally endorsed by the G20 at the summit in Rome on 31 October 2021. The new measures are intended to be effective from 2023. **Hence statement 4 is not correct.**

Q 69.C

- Motions and resolutions are procedural devices to raise a discussion in the House on a matter of general public interest. The process of debate in the House is initiated by a member or Minister by making a motion.
- In its widest sense, the term 'motion' means any proposal submitted to the House for eliciting its decision. Every matter is determined in the House by means of a question put from the motion made by a member and resolved either in the affirmative or negative.
- The decision which has thus been elicited turns the motion into a resolution or order of the house. In other words, by a motion, the House discusses a matter, by a resolution the House declares its own opinion.
- The motions moved by the members to raise discussions on various matters fall into three principal categories:
  - **Substantive Motion: A substantive motion is a self-contained, independent proposal submitted for the approval of the House and drafted in such a way as to be capable of expressing a decision of the House.** Example of a substantive motion impeachment of the President or removal of Chief Election Commissioner.
  - **Substitute Motion:** It is a motion that is moved in substitution of an original motion and proposes an alternative to it. If adopted by the House, it supersedes the original motion.
  - **Subsidiary Motion:** It is a motion that, by itself, has no meaning and cannot state the decision of the House without reference to the original motion or proceedings of the House.
- **Relation between Motion & Resolution:**
  - **All resolutions come in the category of substantive motions,** that is to say, every resolution is a particular type of motion. All motions need not necessarily be substantive. Further, all motions are not necessarily put to vote of the House, whereas all the resolutions are required to be voted upon. The substitute motion is not moved to a resolution, on the other hand, such motions can be moved to motions other than substantive.
- **Hence, both statements 1 and 2 are correct.**

Q 70.D

- **Valmiki Tiger Reserve, National Park,** Wildlife Sanctuary is located at the India-Nepal border in the West Champaran district of **Bihar.** It enters India at Valmiki Nagar and River Gandak forms the western boundary of Valmiki wildlife sanctuary. Major Fauna includes Bengal tiger, Indian rhinoceros, Indian flying fox, black bear, Indian sloth bear, etc. 'Tharu', a scheduled tribe, is the dominant community in the landscape.

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- **Bhitarkanika National Park** is located in northeast Kendrapara district in **Odisha** It is the second Ramsar site of the State after Chilika Lake. It is separated from the Bay of Bengal by the Gahirmatha Marine Sanctuary. It is inundated by the rivers Brahmani, Baitarani & Dhamra and hosts many mangrove species, and is the second-largest mangrove ecosystem in India. Major Fauna includes Saltwater (Estuarine) Crocodile (LC), Indian python, king cobra, etc. and Flora comprises Mangrove species.
- **Papikonda National Park** is located in the Eastern Ghats in the East & West Godavari districts of **Andhra Pradesh.** It is an Important Bird and Biodiversity Area. Indian leopard, rusty-spotted cat, sloth bear, small Indian civet, Asian palm civet, wild boar, spotted deer, sambar deer, gaur, nilgai, four-horned antelope, etc. are commonly found here. The Polavaram irrigation project once completed will submerge parts of the national park.
- **Hence, option (d) is the correct answer.**

Q 71.B

- There are four major puppetry types in India which are categorized into
  - String Puppets
  - Rod Puppets
  - Glove Puppets
  - Shadow Puppets
- **String Puppets**: India has a rich and ancient tradition of string puppets or marionettes. String puppets having jointed limbs, controlled by strings allow far greater flexibility and are, therefore, the most articulate of the puppets. Rajasthan, Orissa, Karnataka, and Tamil Nadu are some of the regions where this form of puppetry has flourished.
  - Puppetries that come under string puppetry are
    - ✓ Kathputli - Rajasthan
    - ✓ Gombeyatta - Karnataka
    - ✓ Bommalattam - Tamil Nadu (It is a mix of Rod and String puppetry)
    - ✓ Kundhei - Odisha
- **Rod Puppets:** Rod puppets are an extension of glove-puppets, but often much larger and supported and manipulated by rods from below. This form of puppetry now is found mostly in West Bengal and Orissa.
  - **Putul Nautch is the traditional rod puppetry form of West Bengal.**
    - ✓ The puppets are carved from wood and follow the various artistic styles of a particular region. In the Nadia district of West Bengal, rod-puppets used to be of human size like the Bunraku puppets of Japan. This form is now almost extinct.
    - ✓ The Bengal rod-puppets, which survive are about 3 to 4 feet in height and are costumed like the actors of Jatra, a traditional theatre form prevalent in the State. These puppets have mostly three joints. The head, supported by the main rod, is joined at the neck and both hands attached to rods are joined at the shoulders.
    - ✓ The technique of manipulation is interesting and highly theatrical. The puppeteers each holding one puppet, stand behind a head-high curtain and while manipulating the rods also move and dance imparting corresponding movements to the puppets.
    - ✓ While the puppeteers themselves sing and deliver the stylized prose dialogues, a group of musicians, usually three to four in numbers, sitting at the side of the stage provide the accompanying music with a drum, harmonium, and cymbals. The music and verbal text have close similarities with the Jatra theatre.
  - Yampuri is also popular Rod puppetry prevalent in Bihar.
- **Glove Puppets:** Glove puppets, are also known as sleeve, hand, or palm puppets. The head is made of either papier mache, cloth or wood, with two hands emerging from just below the neck. The rest of the figure consists of a long flowing skirt. These puppets are like limp dolls, but in the hands of an able puppeteer, are capable of producing a wide range of movements.
- The manipulation technique is simple, the movements are controlled by the human hand; the first finger inserted in the head and the middle finger and the thumb are the two arms of the puppet. With the help of these three fingers, the glove puppet comes alive.
- The tradition of glove puppets in India is popular in Uttar Pradesh, Orissa, West Bengal, and Kerala. In Uttar Pradesh, glove puppet plays usually present social themes, whereas in Orissa such plays are based on the stories of Radha and Krishna.
  - **Pavakoothu is the traditional glove puppet play of Kerala.**
  - It came into existence during the 18th century due to the influence of Kathakali, the famous classical dance-drama of Kerala, on puppet performances.

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- In Pavakoothu, the height of a puppet varies from one foot to two feet. The head and the arms are carved of wood and joined together with a thick cloth, cut and stitched into a small bag.

- **Shadow Puppets:** India has a rich variety of shadow puppets. Shadow puppets are flat figures. They are cut out of leather, which has been treated to make them translucent.
- Shadow puppets are pressed against the screen with a strong source of light behind it. The manipulation between the light and the screen makes silhouettes or colourful shadows, as the case may be, for the viewers who sit in front of the screen.
- This tradition of shadow puppets survives in Orissa, Kerala, Andhra Pradesh, Karnataka, Maharashtra, and Tamil Nadu.
  - **Ravanachhaya is a shadow puppetry form of Odisha.**
  - The puppets used are in one piece and have no joints. They are not coloured, hence throw opaque shadows on the screen. The manipulation requires great dexterity since there are no joints.
  - The puppets are made of deerskin and are conceived in bold dramatic poses. Apart from human and animal characters, many other entities such as trees, mountains, chariots, etc. are also used. Although Ravanachhaya puppets are smaller in size-the largest not more than two feet, have no jointed limbs. They create very sensitive and lyrical shadows.
- Some other puppetries that come under shadow puppetry are
  - Togalu Gombeyatta - Karnataka
  - Tholu Bommalata - Andhra Pradesh
- **Hence, option (b) is the correct answer.**

Q 72.C

- **Categorization of Industries based on their pollution load:**
  - The Re-categorization of industries based on their pollution load is a scientific exercise. The old system of categorization was creating problems for many industries and was not reflecting the pollution of the industries. The new categories remove this lacuna and will give a clear picture to everyone. 25 industrial sectors which were not critically polluting were also earlier categorized as Red.
  - The Ministry of Environment, Forest and Climate Change (MoEFCC) has developed the criteria of categorization of industrial sectors based on the Pollution Index which is a function of the emissions (air pollutants), effluents (water pollutants), hazardous wastes generated, and consumption of resources.
  - For this purpose, the references are taken from the Water (Prevention and Control of Pollution) Cess (Amendment) Act, 2003, Standards so far prescribed for various pollutants under Environment (Protection) Act, 1986 and Doon Valley Notification, 1989 issued by MoEFCC.
  - The Pollution Index PI of any industrial sector is a number from 0 to 100 and the increasing value of PI denotes the increasing degree of pollution load from the industrial sector. Based on the series of brain storming sessions among CPCB, SPCBs, and MoEFCC, the following criteria on 'Range of Pollution Index 'for the purpose of categorization of industrial sectors is finalized.
    - ✓ Industrial Sectors having Pollution Index score of 60 and above - Red category
    - ✓ Industrial Sectors having Pollution Index score of 41 to 59 – Orange category
    - ✓ Industrial Sectors having Pollution Index score of 21 to 40 – Green category
    - ✓ Industrial Sectors having Pollution Index score incl.&upto 20 - White category
  - **The salient features of the 'Re-categorization' exercise are as follows:**
    - ✓ Due importance has been given to the relative pollution potential of the industrial sectors based on scientific criteria. Further, wherever possible, splitting of the industrial sectors is also considered based on the use of raw materials, manufacturing process adopted, and in turn, pollutants expected to be generated.
    - ✓ The Red category of industrial sectors would be 60.
    - ✓ The Orange category of industrial sectors would be 83.
    - ✓ The Green category of industrial sectors would be 63.
    - ✓ Newly-introduced White category contains 36 industrial sectors which are practically non-polluting.
    - ✓ **There shall be no necessity of obtaining the Consent to Operate'' for the White category of industries**. An intimation to the concerned SPCB / PCC shall suffice. **Hence, statement 1 is correct.**
    - ✓ **No Red category of industries shall normally be permitted in the ecologically fragile area / protected area. Hence, statement 2 is correct.**

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- ✓ The details of the industries falling under the Red, Orange, Green, and White categories are presented in tables 1, 2, 3 & 4 respectively (given below).
- ✓ The newly introduced **White category of industries** pertains to those industrial sectors which are practically non-polluting, such as **Biscuit trays, etc. from rolled PVC sheet (using automatic vacuum forming machines), Cotton and woolen hosiers making (Dry process only without any dying/washing operation), Electric lamp (bulb) and CFL manufacturing by assembling only, Scientific and mathematical instrument manufacturing, Solar power generation through the photovoltaic cell, wind power and mini hydel power (less than 25 MW).**

Q 73.B

- **Delimitation of Assembly Constituencies**
  - As per Delimitation Commission, as far as practicable, all assembly constituencies in a district shall be confined within the territorial limits of that district. In other words, **an assembly constituency shall not ordinarily extend to more than one district.Hence statement 1 is not correct.**
  - Assembly constituencies are allocated to each district on the basis of the total population of that district divided by the average population per constituency.
  - The average population in each constituency in the district is worked out by dividing the total population of the district by the number of seats allocated to that district.
  - Then, the areas of the district are divided into the requisite number of assembly constituencies having regard to the average population per constituency in the district with a permissible deviation of 10 percent plus or minus from the district average.
  - In delimiting the assembly constituencies, efforts will be made to ensure that, as far as practicable, sub-divisions/tehsils are kept intact and not unnecessarily broken.
  - While delimiting the assembly constituencies on the basis of the administrative units as mentioned above, the contiguity of such administrative units will be the basic requirement, so that no constituency has an enclave/island within it of certain areas belonging to another constituency and having no contiguity to the other areas of that latter constituency.
- **Delimitation of Parliamentary Constituencies**
  - Each parliamentary constituency in a State shall be an integral multiple of the assembly constituencies comprised therein. No assembly constituency shall extend to more than one parliamentary constituency.
- **Reservation of Seats for SCs and STs**
  - Seats have to be reserved for the scheduled castes and scheduled tribes in proportion to their population to the total population of the State.
  - This allocation of seats for the SCs and STs is to be worked out separately both for the assembly and parliamentary constituencies in each State, on the basis of the 2001 Census.
  - Seats for the SCs & STs are to be reserved in the constituencies in which the percentage of their population to the total population is the largest. Therefore, after all the assembly constituencies in the State have been delimited, the constituencies to be **reserved for STs will be those where the percentage of the ST population to the total population of the constituencies is the largest, in descending order** equal to the number of constituencies to be reserved for STs.**Hence statement 2 is correct.**

Q 74.A

- **Engineering Export Promotion Council (EEPC) India is the largest Export Promotion Council in India.**
  - It was set up in 1955 under the Ministry of Commerce, Government of India.
  - It has a membership strength of around 13000 Indian engineering firms from SMEs to large corporates.
  - **A non-commercial and non-profit organisation and the first non-commercial and non-profit Council in the country certified as an ISO:9000 organisation for designing and holding exhibitions abroad. Hence statement 1 is correct.**
  - It fixes Annual Export Target in line with the Government of India's Foreign Trade Policy and decides upon various measures to be undertaken.
  - Acts as an interface between exporters and various Government of India Bodies like DGFT, Customs, Central Excise, RBI, EXIM Bank etc on policy matters related to exports.
  - **It organises various Promotional Activities in India and Abroad under the MDA/MAI scheme of the Government of India.**

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- Disseminates a host of useful trade information to member exporters in areas like enquiry, tender, project, trade opportunities, market reports, country reports, trade statistics etc by means of e-mails and hosting in the Council's Website on regular basis. For this purpose, Council has a full-fledged Trade Informatic Division.

- **Membership of the Council can be given to -**
  - Manufacturers, processors of engineering goods.
  - Merchant Exporters, Government recognise Export and Trading House, Design engineering, Consultancy, Erection, Ship Builders, Ship Repairers, Civil Engineering and Construction firms.
  - **Small Scale Units are borne on the list of Directorate of Industries or small scale service institutes for export of engineering goods or services of up to Rs. 60 lakhs during the preceding year. Hence statement 2 is not correct.**

Q 75.C

- **Software Technology Park (STP) Scheme:**
  - **For the promotion of Software exports from the country, the Software Technology Parks of India was set up in 1991 as an Autonomous Society under the Ministry of Electronics and Information Technology. Hence statement 1 is not correct.**
  - The services rendered by STPI for the Software exporting community have been statutory services, data communications servers, incubation facilities, training and value-added services.
  - STPI has played a key developmental role in the promotion of software exports with a special focus on SMEs and start-up units.
  - **The STP Scheme which is a 100% export oriented scheme has been successful in fostering the growth of the software industry. Hence statement 2 is correct.**
  - The exports made by STP Units have grown over the years.
  - The STP scheme allows software companies to set up operations in convenient and inexpensive locations and plan their investment and growth driven by business needs. More than 4000 units are registered with STPI.
- **Benefits under STP Scheme:**
  - Single window clearance;
  - STP/ EHTP unit can be set up anywhere in India;
  - 100% foreign equity is permitted;
  - Exemptions from payment of duty of customs/ integrated tax and compensation cess on imported capital goods;
  - Refund of GST on procurement of capital goods from DTA;
  - **Import of second-hand capital goods is also permissible; Hence statement 3 is correct.**
  - DTA sale permissible;
  - Depreciation on computers at accelerated rates up to 100% over 5 years is permissible;
  - 100% FDI investment permitted through automatic route.

Q 76.B

- Indian Computer Emergency Response Team (CERT-In) has been undertaking responsible vulnerability disclosure and coordination for vulnerabilities reported to CERT-In in accordance with its vulnerability coordination role as a National CERT since its inception.
- **To move a step further in the direction to strengthen trust in "Make in India" as well as to nurture responsible vulnerability research in the country, CERT-In has partnered with the Common Vulnerabilities and Exposures (CVE) Program.**
  - In this regard, Indian Computer Emergency Response Team (CERT-In) has been authorized by the CVE Program, as a CVE Numbering Authority (CNA) for vulnerabilities impacting all products designed, developed, and manufactured in India**. Hence, statement 1 is not correct**
- CVE is an international, community-based effort and relies on the community to discover vulnerabilities. The vulnerabilities are discovered, then assigned, and published to the CVE List. **Information technology and cybersecurity professionals use CVE Records to ensure they are discussing the same issue and to coordinate their efforts to prioritize and address the vulnerabilities. Hence, statement 2 is correct.**
- The vulnerabilities are discovered then assigned and published by organizations from around the world that have partnered with the CVE Program. Partners publish CVE Records to communicate consistent descriptions of vulnerabilities.
- CNAs are organizations responsible for the regular assignment of CVE IDs to vulnerabilities, and for creating and publishing information about the Vulnerability in the associated CVE Record. The CVE List is built by CVE Numbering Authorities (CNAs).

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- Every CVE Record added to the list is assigned by a CNA. The CVE Records published in the catalog enable program stakeholders to rapidly discover and correlate vulnerability information used to protect systems against attacks. Each CNA has a specific Scope of responsibility for vulnerability identification and publishing.

Q 77.C

- **What is a Chocolate-bordered Flitter?**
  - Chocolate-bordered Flitter (Zographetus Dzonguensis) is **a golden yellow butterfly discovered in Dzongu in North Sikkim. Hence option (c) is the correct answer.**
  - The butterfly has been named 'Chocolate-bordered Flitter' as it has a chocolate-colored border around both wings.
  - The closest relatives of this butterfly are Zographetus pangi in Guangdong, and Zographetus hainanensis in Hainan, both in southeastern China close to Hong Kong.
  - However, the physical appearance of this species differs slightly and the internal structures of the males also differ slightly.

Q 78.C

- **Historical significance of Mamallapuram (Mahabalipuram)**
- Mamallapuram has its origins in the word 'Mamallan', **the title bestowed on Narasimhavarman II,** the great king of the Pallava dynasty that existed between the 3rd and the 9th century. 'Mamallan' means 'great wrestler'. **Hence statement 2 is not correct**
- **It was one of the major port cities by the 7th century within the Pallava kingdom. The town was named after Pallava king Narasimhavarman I (AD 630-668), who was also known as Mamalla. Hence statement 1 is correct.**
- The architectural heritage of Mamallapuram - **Shore Temple:** It is a structural temple built between 700–728 AD with granite blocks. It was built by Narasimhavarman II in the Dravidian Style of Architecture. It has been classified as a UNESCO World Heritage Site.
- The cluster of five cut rock temples, the dharmaraja ratha are also at Mamallapuram.
- The Chinese traveler **Huen Tsang visited the region during the rule of the Narasimhavarman I. Hence statement 3 is correct.**

Q 79.B

- **Statement 1 is not correct:** The **Indian Coast Guard** has launched 'Operation Oliva' along the sea waters of Gahirmatha Marine Sanctuary here as part of its mission to ensure safe mid-sea breeding of **Olive Ridley turtles.** Round-the-clock surveillance is conducted from November till May utilizing Coast Guard assets such as fast patrol vessels, air cushion vessels, interceptor craft, and Dornier aircraft to enforce laws near the rookeries (a colony of breeding animals). From November 2020 to May 2021, the Coast Guard devoted 225 ship days and 388 aircraft hours to protect 3.49 lakh turtles that laid eggs along the Odisha coast.
- **Statement 2 is correct:** It is a joint effort of the Indian Coast Guards with the state forest department, the turtle conservation program is in full swing to keep a vigil on illegal fishing along the turtle concentration zone.
- The olive ridley gets its name from the olive green color of its heart-shaped shell. The species is among the smallest of the world's sea turtles and is found primarily in the tropical regions of the Pacific, Indian, and Atlantic oceans. Olive ridley turtles are found throughout the world. The Odisha's Gahirmatha Marine Sanctuary is known as the world's largest rookery (a colony of breeding animals) of sea turtles. **They are best known for their unique mass nesting called Arribada**, where thousands of females come together on the same beach to lay eggs.
- Some of the other initiatives for the conservation of turtles in India includes a mobile-based application called **KURMA**, **National Marine Turtle Action Plan**, **WWF-India initiated its marine turtle conservation program in 2003, The Turtle Action Group or TAG which is a network of NGOs and other local and community-based organizations dedicated to the cause of sea turtle conservation and coastal protection in India, etc**

Q 80.A

- Vellore Mutiny erupted in the form of a violent strike at the Vellore Fort by the soldiers of the Madras regiment on 10th July 1806.
- There were **a few reasons for the outbreak** of the mutiny:

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- **In 1805, General Sir John Craddock, who was the Commander-in-Chief of the Madras Army,** ordered a change in the army's uniform that hurt the sentiments of both Hindu as well as Muslim soldiers. **Hence statement 1 is correct.**
- Hindus were prohibited from putting religious marks on their forehead and Muslims were forced to trim their mustaches and beards. In place of the turban they were used to wearing, they were asked to wear a round hat usually associated with Europeans. Tipu Sultan, who was the ruler of the Kingdom of Mysore till he was defeated and killed by the British in 1799. After his death, his wives, children, and servants were confined to the city of Vellore. **Hence statement 2 is not correct.**
- People were angry about the disrespect shown by the British to the erstwhile ruler's sons. An attack was planned. This was the triggering point.

- **The course of events during the mutiny**:
  - Soon after midnight, around 500 Indian soldiers broke into the Vellore fort and murdered more than 100 unsuspecting soldiers who were sleeping.
  - The rebels took down the Union Jack (the flag of the U.K.) and replaced it with the flag of Tipu Sultan. They then declared Tipu Sultan's son as the king.
- **Consequences of the Mutiny:**
  - The revolt was suppressed within a day. After a trial, the sepoys involved in mutiny were punished to death. John Caddock the commander in chief and Lord Bentinck, the Governor of Madras, along with other senior British officers were sacked and recalled back to Britain. The new dress regulations were abolished and Tipu Sultan's family was moved to Calcutta.

Q 81.D

- **Recently an analysis on oceans has been published in the Advances in Atmospheric Sciences journal.**
- Oceans stabilise Earth's climate by absorbing large amounts of heat from sunlight, water vapour and other greenhouse gases. This heat can find its way back into the atmosphere through melting ice shelves, evaporating water or directly reheating the atmosphere. If the ocean absorbs more heat than it releases, its heat content rises.
- **According to the analysis, the upper 2,000 metres of the ocean absorbed 235 zettajoules (ZJ) of heat in 2021 relative to the 1981-2010 average.**
- During El Niño, **the oceans release some amount of heat, contributing to a mini global warming.** So, the warmest years in terms of surface temperature are El Niño years. **Hence statement 1 is correct.**
- During La Niña, oceans take up heat and bury it at depths away from the surface.
- Warmer oceans also **supercharge weather systems, creating more powerful storms and hurricanes,** as well as increasing precipitation and flood risk. **Hence statement 2 is correct.**
- Warming oceans could result in increased ocean stratification or separation, causing less mixing of the ocean layers. Increased stratification means heat, oxygen and carbon dioxide are not transported from the surface to the oceanic depths. **Hence statement 3 is correct.**

Q 82.D

- The Governor-Generalship of Lord Hastings witnessed not only territorial expansion but also the progress of administration. **He approved the Ryotwari system of land revenue introduced in the Madras Presidency by Sir Thomas Munroe.**
- In the sphere of judiciary, the Cornwallis Code was improved. **The Police system of Bengal was extended to other regions.** The importance of Indian Munsiffs had increased during his administration. The separation of judicial and revenue departments was not rigidly followed. Instead, the District Collector acted as Magistrate.
- **Hastings had also encouraged the foundation of vernacular schools by missionaries and others.** In 1817, the Hindu College was established at Calcutta by the public for the teaching of English and western science. Hastings was the Patron of this college.
- **He encouraged the freedom of the Press and abolished the censorship introduced in 1799.** The Bengali Weekly, Samachar Darpan was started in 1818 by Marshman, a Serampore missionary.
- His territorial gains strengthened the British power in India. He was considered the maker of the Bombay Presidency. In short, he completed and consolidated the work of Wellesley.
- **Hence, option (d) is the correct answer.**

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Q 83.B

- The Fifth Report was submitted to the British Parliament in 1813. It was called the Fifth Report as it was the fifth in a series of reports about the working of East India Company. **The core issue of the Fifth Report was the administration and activities of the East India Company.** This report had 1002 pages. About 800 pages were in the form of appendices which included petitions of zamindars and ryots, reports of Collectors, statistical tables on revenue returns and the official notes on the revenue and judicial administration of Bengal and Madras.
- Objectives of the Report : Many groups of people in Britain were not happy with the working of the East India Company in India. They opposed the monopoly enjoyed by East India Company over trade with India and China. Many British traders wanted a share in Company's trade in India. They emphasised that the Indian market should be opened for British manufacturers. Many political groups even argued that the conquest of Bengal benefitted only the East India Company and not the British nation as a whole. They highlighted the misrule and maladministration by East India Company. As a result, the British Parliament passed several acts in the late 18th century to regulate and control the rule of East India Company in India.
- **Hence, option (b) is the correct answer.**

Q 84.B

- Also known as the diamond-water paradox, the paradox of value describes the vast difference seen in the prices of certain essential goods and non-essential goods. Many goods and services that are essential to human life have a much lower price in a market economy than other goods and services that are not so essential.
- For example, water that is essential for human existence sells at a price that is just a fraction of the price of the diamond which is a luxury item that is not essential for human existence.
- Reasons for the paradox of value:
    - Context/ marginal utility: The price or the exchange value of goods and services is not determined by their simple use-value. Instead, it is determined by their marginal use-value (or utility) to the buyer. **The marginal utility of water is fairly constant.** Each day water gives a certain marginal utility (satisfaction). We need to keep buying and using water every day of our life. However, the marginal utility of diamonds is very different. **After buying one diamond the marginal utility of another diamond would be very significantly lower.**
    - Inelastic supply of diamonds: The supply of water and diamonds is very different. The supply of tap water is very elastic. Therefore, even as demand rises, price increases only a little. **The supply of diamonds is very limited, therefore, supply is inelastic. It is the rarity of diamonds that is pushing up the prices. Hence, option (b) is the correct answer.**
    - High price/rarity makes diamonds more attractive: **Diamonds are like Veblen goods – the higher price makes it more desirable.**

Q 85.C

- **A fungus is any member of the group of eukaryotic organisms** that includes microorganisms such as yeasts and moulds, as well as the more familiar mushrooms. These organisms are classified as a kingdom, separately from the other eukaryotic kingdoms, which by one traditional classification include Plantae, Animalia, Protozoa, and Chromista.
- Some fungi are single-celled, while others are multicellular. Single-celled fungi are called yeast. The cell walls are composed of chitin and polysaccharides.
- Fungi are **responsible for decomposition and nutrient cycling through the environment.** Most fungi absorb soluble organic matter from dead substrates and hence are called saprophytes.
- Fungi are found in just about any habitat but most live on the land, mainly in soil or on plant material rather than in sea or freshwater. But **they thrive in environments that are moist and slightly acidic. They can grow with or without light. Hence, option (c) is not correct.**
- Fungi can reproduce asexually by fragmentation, budding, or producing spores, or sexually with homothallic or heterothallic mycelia.

Q 86.B

- **A recent report by the Financial Times says that inflation and taper tantrums have replaced COVID-19 as the biggest worry for global investors.**
- When an economy is stressed, that is, the government feels there is a liquidity crunch, the Central Bank buys up a predetermined amount of Government bonds and other assets in order to flush the economy with cash. This is known as 'Quantitative Easing. This was seen after the 2008 financial crisis and recently when the Coronavirus pandemic struck.

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- In 2013, as the world was coming out of a global financial crisis, the United States Federal Reserve said it would gradually reduce quantitative easing instituted after the Lehman Brothers bankruptcy in 2008. This would involve slowing the purchase of treasury bonds and hence reducing the money being pumped into the US economy.
- **The announcement led to a sudden sell-off in global stocks and bonds. This triggered capital outflows and currency depreciation in many emerging market economies that received large capital inflows. This episode earned the nickname taper tantrum. Hence, option (b) is the correct answer.**
- The 10-year US Treasury yield has witnessed a sharp rise this year too — from 0.9 percent to 1.4 percent so far in 2021. Bond yields globally, including in India, have been trending up. The possibility of inflation has also fuelled concerns that the US Fed will have to reverse its quantitative easing and raise interest rates sooner rather than later. This has given rise to the possibility of a new 'tantrum'.

Q 87.D

- **Creation Of New States In India: The Constitutional Procedure:** The New States in India are created under the provisions of **Articles 2, 3, and 4** of the Indian Constitution.
  - **Article 2** of the Constitution of India vests in the Indian Parliament the exclusive power to admit or establish new states into the Indian Union on such terms and conditions as the Parliament may provide for. This authority is with the Indian Parliament only and the S**tate legislatures have no power to frame laws on this subject matter.**
  - **Article 3** of the Constitution of India dives and defines further and authorizes the Indian Parliament to form new states; alter the area, boundaries, or names of existing states by legislation. The parliament, under this Article, is empowered to form a new state by separating the territory from any state or by uniting states or parts of States, or by uniting any territory to a part of any state. It is also empowered to increase or diminish the area of any state or to alter the boundaries or the name of any state. It should be noted that in clauses **from (a) to (e) under Article 3**, the **expression 'State' includes a Union Territory.**
  - There is **a proviso clause attached to Article 3.** The clause provides that any legislation framed upon the provisions of Article 3 shall **not be introduced in either House of the Indian Parliament, except when it is firstly recommended by the President of India** for the same purpose. **Hence statement 1 is correct.**
  - This clause further provides that where such legislation affects the area, boundary, or the name of any existing State, then such legislation shall not be introduced in either House of the Parliament unless, when **first referred by the President to such State legislature affected**, views of such State legislature are first acquired on its area, boundary or name being affected thereby.
  - It is to be noted that such views by the State legislature shall be communicated to the Parliament within such time period as the President of India may specify in such reference or within such time period as the President may allow. If the Centre accepts the State's recommendation, a bill can be introduced in either House of Parliament on the recommendation of the President, which in fact means the recommendation of the Union government.
  - Before drafting the Bill, it is open to the Centre to appoint a Commission to fix boundaries and for Sharing waters, providing other guarantees and location of capitals, High Courts and all other requirements of the States to be formed. It is only on receipt of a report of the Commission that the President may recommend a Bill, on the advice of the Union Council of Ministers.
  - However, the **Parliament is not bound to accept or act upon the views of the State legislature**, even if such views are received in time. This means, even if there is opposition to the referred Bill, or such reference is not responded to within the prescribed time, or when such a bill is approved, the President can go ahead with the formation of a new State. The period within which the State Legislature must express its views has to be specified by the President, but the President may extend the period so specified. **Hence statement 2 is correct.**
  - If, however, the **period specified or extended expires and no views of the State Legislature are received, the second condition laid down in the provision is fulfilled in spite of the fact that the views of the State legislature have not been expressed.** The intention seems to be to give an opportunity to the State Legislature to express its views within the time allowed; if the State Legislature fails to avail itself of that opportunity, such failure does not invalidate the introduction of the bill.
  - **Article 4** of the Indian Constitution reflects a mandatory direction to the Parliament while framing legislation under Articles 2 and 3. It directs the Parliament to frame legislation that bears within it certain provisions providing for the **amendment of the First Schedule and the Fourth Schedule** of the Constitution of India in order to give effect to such legislation.

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- Such a law may also contain such supplemental, incidental and consequential provisions, including provisions relating to the distribution of representation in the Parliament and in the legislatures of the States, as the Parliament may deem necessary. Further, this Article clearly bars the jurisdiction of the Parliament to frame legislation intending to be an amendment of the Constitution for the purposes of **Article 368.**
- The **First Schedule** of the Indian Constitution enlists the names of the States and the Union Territories which are included in the expression 'Union of States'. The **Fourth Schedule** prescribes the allocation of seats in the Council of States. **No such law as aforesaid shall be deemed to be an amendment of this Constitution for the purposes of Article 368. Hence statement 3 is correct.**

Q 88.C

- **Nagara School of Architecture:** From the fifth century onwards, a distinct style of temple architecture developed in the northern part of India, known as the Nagara style of architecture. Even in the Nagara school, different sub-schools emerged in western, central, and eastern parts of the country. Some of the **features of Nagara style are:**
  - The temples generally followed the **Panchayatan style** of temple making, which consisted of subsidiary shrines laid out in crucified ground plan with respect to the principal shrine.
  - **Presence of assembly halls or mandapas in front of the principal shrine. Hence, statement 3 is correct.**
  - **Outside the garbgriha,** images of the river goddesses, Ganga and Yamuna, were placed.
  - There were **no water tanks** or reservoirs present on the temple premises. **Hence, statement 1 is not correct.**
  - The temples were generally **built on upraised platforms. Hence, statement 2 is correct.**
  - The **porticos had a pillar approach.**
  - **The Shikharas are generally of three types:**
    - ✓ **Latina or Rekha-prasad**: They were square at the base and the walls curve inward to a point on the top.
    - ✓ **Phamsana:** They had a broader base and were shorter in height than the Latina ones. The slope upwards on a straight line.
    - ✓ **Valabhi:** They had a rectangular base with the roof rising into vaulted chambers. They were also called the wagon-vaulted roofs.
  - The vertical end of the shikhara ended in a horizontal fluted disc, known as the **Amalak.** On top of that, a spherical shape was placed known as the **Kalash.**

Q 89.C

- **Kalhana** is regarded as the first historian of India. In 1148 CE, Kalhana started writing the history of the rulers of Kashmir, starting from legends to the kings and queens of the 12th century. It took him two years to complete the book, and in 1150 CE he had **completed the Rajatarangini** – the River of Kings. **Hence option (c) is correct**
- The Rajatarangini is a Sanskrit kavya composition, of 7,826 verses, set in eight cantos of varying length; each a Taranga or a wave. Kalhana used multiple sources to chronicle this sequential history of the kings of Kashmir, including sculpture, architecture, coinage, and manuscripts, because of which he makes claim for an authentic representation of history.
- **Atula** was a Sanskrit-language poet from the Mushika Kingdom in present-day Kerala, India. He composed the Mushika-vamsa, a mahakavya (an epic poem) on the ruling dynasty of the kingdom.
- The Sanskrit writer known as **Bilhana was a well-known Kashmiri poet** who was most famous for a long love poem that he wrote numbering some fifty stanzas. He called it Caurapâñcâśikâ, and this became known in English as The Collection of Fifty Verses by a Love Thief. It was dedicated to a royal Princess, possibly called Princess Yaminipurnatilaka, daughter of King Madanabhirama. Legend tells of a secretive love affair between the two and, for this, the poet found himself imprisoned and uncertain of his fate. Incurring the wrath of the King in such a way was, understandably, a dangerous practice.
- **Banabhatta was the Asthana Kavi in the court of King Harsha Vardhana** who reigned from C. 606-647 CE in North India first from Sthanishvara (Thanesvar), and later Kanauj. Bana's principal works include a biography of Harsha, "the Harshacharita" (Deeds of Harsha) and one of the world's earliest novels "Kadambari". Bana died before completing the novel and it was completed by his son Bhushanbhatta. Both these works are said to be noted texts of Sanskrit literature. The other works attributed to Bana are Chandikasataka and a drama, the Parvati Parinaya.

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Q 90.D

- The Indian Desert Cat has been spotted for the first time in Madhya Pradesh's Panna Tiger Reserve. It can be found in the Thar desert of Rajasthan and inhabits scrub desert areas. In 1999 they were spotted in the Bikaner, Barmer, Jaisalmer, Pali, and Nagaur districts of Rajasthan. However, between 1999 and 2006, only four Indian desert cats were sighted. Though it is a native of arid and semi-arid regions but can be found in forest areas also.
- **Statement 1 is correct:** It is in the 'Least Concern' category of the International Union for Conservation of Nature Red List of Threatened Species.
- **Statement 2 is correct:** The cat has fur padding on its paws that protects it from extreme heat and the biting cold of desert nights. Besides, it also prevents the desert cat from leaving any pug marks on the desert ground that would otherwise make it easy prey for hunters.
- **Statement 3 is correct:** As it is a native of the arid and semi-arid regions it can survive without water for a long period of time.

Q 91.C

- According to the IMO, over 90% of the world trade is carried by sea. Oceans are busy highways – with some routes used more than others, depending on the trade requirements that control the inflow of vessels and containers.
- The top ten ports of shipping by volume are:
  - Shanghai, China
  - Singapore
  - Ningbo-Zhoushan, China
  - Shenzhen, China
  - Guangzhou Harbor, China
  - Busan, South Korea
  - Qingdao, China
  - Hong Kong, S.A.R, China
  - Tianjin, China
  - Rotterdam, The Netherlands **Hence statement 1 is correct.**
- English is the busiest sea route in the world, it connects the North Sea and the Atlantic Ocean. More than 500 ships pass through this channel daily. It also has the world's busiest shipping lane: The Dover's Strait. **Hence statement 2 is not correct.**
- According to the Ministry of Shipping, around 95% of India's trading by volume and 70% by value is done through maritime transport. **Hence statement 3 is correct.**

Q 92.D

- The six IUCN Commissions are broad and active networks of scientists and experts providing IUCN and its Members with sound know-how and policy advice to drive conservation and sustainable development.
- Commission on Education and Communication focuses on driving change through leading communication, learning and knowledge.
- Commission on Ecosystem Management focuses on promoting ecosystem-based approaches for the management of landscapes and seascapes.
- Commission on Environmental, Economic and Social Policy focuses on harmonising nature conservation and the critical social, cultural, environmental, and economic justice concerns of human societies.
- **Species Survival Commission focuses on influencing, encouraging and assisting societies to conserve biodiversity by building knowledge on the status and threats to species.**
- **World Commission on Environmental Law focuses on advancing environmental law to strengthen the legal foundations of conservation of nature and sustainable development.**
- **World Commission on Protected Areas focuses on developing knowledge based policy, advice and guidance on the full suite of issues surrounding protected areas.**
- **Hence option (d) is correct.**

Q 93.D

- **Prepaid Payment Instruments are instruments that facilitate the purchase of goods and services, the conduct of financial services, enable remittance facilities, etc., against the value stored therein. Hence statement 1 is correct.**
- The Prepaid instruments can be issued as smart cards, magnetic stripe cards, internet accounts, internet wallets, mobile accounts, mobile wallets, paper vouchers and any such instruments which can be used to access the prepaid amount (collectively called Payment Instruments hereafter).

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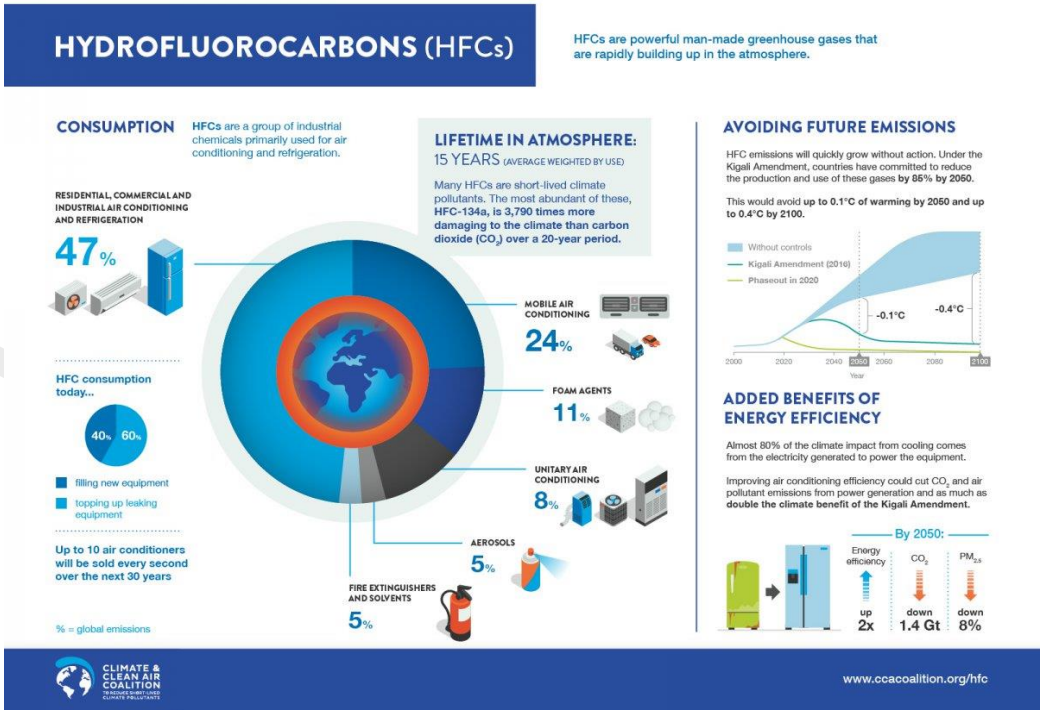
- **PPIs can be issued by banks and non-banks.** Banks can issue PPIs after obtaining approval from RBI.
- **The non-bank PPI issuers are companies incorporated in India and registered under the Companies Act, 1956 / 2013. They can operate a payment system for issuing PPIs to individuals/organisations after receiving authorisation from RBI. Hence statement 2 is correct.**
- Reserve Bank of India (RBI) announced an **integrated ombudsman scheme "One Nation One Ombudsman"** to improve the grievance Redressal mechanism for bank customers.
- There are three separate ombudsmen for banks, **non-banking finance companies (NBFCs) and non-bank prepaid payment issuers (PPIs) that are wallets.**
- The RBI has **decided to integrate the three Ombudsman schemes and introduce centralised processing of grievances following a 'One Nation One Ombudsman' approach. Hence statement 3 is correct.**

Q 94.A

- A curative petition is a judicial innovation to be used in rare cases when mercy and review petitions filed against final conviction are dismissed. The objective is to prevent miscarriage of justice and prevent abuse of process. **Hence, statement 1 is correct.**
- The Supreme court first evolved this concept in Rupa Hurra vs Ashok Hurra Case (2002).
- It is heard by three senior-most judges and judges who passed the concerned judgment. **Hence, statement 2 is not correct.**
- Such a petition needs to be filed within 30 days from the date of judgment or order. **Hence, statement 3 is not correct.**

Q 95.B

- Hydrofluorocarbons (HFCs) are a group of industrial chemicals primarily used for **cooling and refrigeration. Hence statement 2 is correct.**
- **HFCs were developed to replace stratospheric ozone-depleting substances** that are currently being phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer. They are non-ozone-depleting substances. **Hence statement 1 is not correct.**
- Many HFCs are very powerful greenhouse gases and a **substantial number are short-lived climate pollutants with a lifetime of between 15 and 29 years in the atmosphere. Hence statement 3 is not correct.**



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Q 96.B

- **Scheme for Financing Viable Infrastructure Projects through a Special Purpose Vehicle called the India Infrastructure Finance Company Limited (IIFCL). It will be administered by the Ministry of Finance. Hence statement 1 is not correct.**
- **Eligibility Criteria for Projects**
  - In order to be eligible for funding under this Scheme, a project shall meet the following criteria;
  - The project shall be implemented (i.e. developed, financed and operated for the Project Term) by:
  - A Public Sector Company
  - A Private Sector Company selected under a PPP initiative; or
  - **A Private Sector Company, Hence statement 3 is correct.**
  - Provided that IIFCL shall accord overriding priority for lending under this Scheme to Private Public Partnership projects that are implemented by Private Sector Companies selected through a competitive bidding process.
- **Sources of funding for IIFCL**
  - Apart from equity, IIFCL shall be funded through debt raised from the following sources:
  - Rupee debt raised from the market, through suitable instruments created for the purpose;
  - **Debt from bilateral or multilateral institutions such as the World Bank and Asian Development Bank. Foreign currency debt, including through external commercial borrowings raised with prior approval of the Government. Hence statement 2 is correct.**
  - Short term debt from banks/financial institutions only for the purpose of managing Asset-Liability mismatch or for refinancing to the extent of its Net Worth at any given point of time.

Q 97.C

- **What is a catalytic converter?**
  - Pollutant gases are made of harmful molecules, but those molecules are made from relatively harmless atoms. So if we could find a way of **splitting up the molecules after they leave a car's engine and before they get pumped out into the air, we could crack the problem of pollution**—or some of it, anyway. That's the job that a catalytic converter does.
  - A catalyst is simply a chemical that makes a chemical reaction go faster without itself changing in the process. **In a catalytic converter, the catalyst's job is to speed up the removal of pollution.** The catalyst is made from platinum or a similar, platinum-like metal such as palladium or rhodium.
  - A catalytic converter is a large metal box, bolted to the underside of your car, that has two pipes coming out of it. One of them (the converter's "input") is connected to the engine and brings in hot, polluted fumes from the engine's cylinders (where the fuel burns and produces power). The second pipe (the converter's "output") is connected to the tailpipe (exhaust). As the gases from the engine fumes blow over the catalyst, chemical reactions take place on its surface, breaking apart the pollutant gases and converting them into other gases that are safe enough to blow harmlessly out into the air.
  - One very important thing to note about catalytic converters is that **they require you to use unleaded fuel because the lead in conventional fuel "poisons" the catalyst and prevents it from taking up the pollutants in exhaust gases. Hence option (c) is the correct answer.**
- **What happens inside the converter?**
  - Inside the converter, the gases flow through a dense honeycomb structure made from a ceramic and coated with the catalysts. The honeycomb structure means the gases touch a bigger area of catalyst at once, so they are converted more quickly and efficiently. The **catalyst inside a catalytic converter is made typically from platinum or a similar metal, such as rhodium or palladium.** Gases flow through a ceramic honeycomb structure located within the cat housing. This is lined with metals that have specific jobs that play a role in reducing emissions.
  - **Typically, there are two different catalysts in a catalytic converter:**
  - One of them tackles nitrogen oxide pollution using a chemical process called reduction (removing oxygen). This breaks up nitrogen oxides into nitrogen and oxygen gases (which are harmless, because they already exist in the air around us).
  - The other catalyst works by an opposite chemical process called oxidation (adding oxygen) and turns carbon monoxide into carbon dioxide. Another oxidation reaction turns unburned hydrocarbons in the exhaust into carbon dioxide and water.
  - In effect, three different chemical reactions are going on at the same time. That's why we talk about three-way catalytic converters. (Some, less-effective converters carry out only the second two (oxidation) reactions, so they're called two-way catalytic converters.) After the catalyst has done its job, what emerges from the exhaust is mostly nitrogen, oxygen, carbon dioxide, and water (in the form of steam).

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Q 98.A

- **Statement 1 is correct:** Manganese occurs as silvery grey in colour and is very hard and brittle in nature. It is always available in combination with iron, laterite and other minerals. Manganese is an important raw material for smelting of iron ore and also used for manufacturing ferro alloys. **Manganese deposits are found in almost all geological formations, however, it is mainly associated with Dharwar system. Odisha is the leading producer of Manganese**. Major mines in Odisha are located in the central part of the iron ore belt of India, particularly in Bonai, Kendujhar, Sundergarh, Gangpur, Koraput, Kalahandi and Bolangir.
- Karnataka is another major producer and here the mines are located in Dharwar, Ballari, Belagavi, North Canara, Chikkmagaluru, Shivamogga, Chitradurg and Tumakuru. Maharashtra is also an important producer of manganese, which is mined in Nagpur, Bhandara and Ratnagiri districts. Thedisadvantage to these mines is that they are located far from steel plants. The manganese belt of Madhya Pradesh extends in a belt in Balaghat-Chhindwara-Nimar-Mandla and Jhabua districts. Telangana, Goa, and Jharkhand are other minor producers of manganese.
- **Statement 2 is not correct:** In the recent years the trade volume of manganese ore has grown world over and also in India. **Presently India is one of the major importers of manganese ore in the world. In 2019 the top importers of Manganese Ore were China ($5.05B), India ($536M), Norway ($273M), Japan ($254M), and Malaysia ($248M).** China is the world's largest producer of manganese by far, with production amounting to 31.67 million metric tons in 2020. South Africa was the second largest producer that year, at 16.02 million metric tons. Chiatura represents the largest manganese reserve in Georgia and one of the largest in the world.

Q 99.D

- **What are Microplastics?**
  - **Microplastics generally refer to plastic particles between 0.33 mm and 5 mm in size.** Microplastics can originate from a variety of sources including, microbeads from personal care products; fibers from synthetic clothing; pre-production pellets and powders; and fragments degraded from larger plastic products. These smaller plastic particles can be ingested by aquatic organisms.
  - Microplastics are intentionally added in primary sources such as personal care products and clothing products; or secondary sources that are formed by fragmentation of plastic over a period of time.
  - Microplastics come from a variety of sources, including from larger plastic debris that degrades into smaller and smaller pieces. In addition, microbeads, a type of microplastic, are very tiny pieces of manufactured polyethylene plastic that are added as exfoliants to health and beauty products, such as some cleansers and toothpastes. These tiny particles easily pass through water filtration systems and end up in the ocean and Great Lakes, posing a potential threat to aquatic life.
- **What are microplastics found in?**
  - Microplastics can end up in drinking water, food products, beer and table salt, to name a few.
- **But where do microplastics originate?**
  - Plastic waste. Many of the everyday products we use, like water bottles, food packaging, furniture, cooking and eating utensils, are made from plastic. It's become abundant in everything we use and consume. When plastic ends up in a landfill or is discarded improperly as litter, the plastics eventually become brittle and break down from sun exposure and other elements. When these larger plastic items break down into their smallest form, they can usually be found in pieces smaller than 5-millimeters in length, becoming a microplastic. Once in the microplastic stage, they can quickly move around the environment through the air, waterways, and food chains.
- **Microbeads:**
  - They are manufactured solid plastic particles of less than one millimeter in their largest dimension. They are most frequently made of polyethylene but can be of other petrochemical plastics such as polypropylene and polystyrene. They are used in exfoliating personal care products, toothpastes and in biomedical and health-science research
- **Use**
  - Microbeads are added as an exfoliating agent to cosmetics and personal care products, such as **soap,shampoos,lipsticks, facial scrub and toothpastes.** They may be added to over-the-counter drugs to make them easier to swallow. In biomedical and health science research microbeads are used in microscopy techniques, fluid visualization, fluid flow analysis and process troubleshooting.
  - **Different fabrics used for different types of clothing items** are made of minuscule synthetic fibers called microfibers. Examples of these clothing items include dry fit sportswear and rash guards that are made of nylon or polyester, the heat-resistant synthetic fiber Kevlar used to make military-grade gears, and leather substitutes such as Ultrasuede.

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- **In medical research,** they are in microscopy techniques, fluid visualization, fluid flow analysis, and process troubleshooting. Sludge from Sewage Treatment Plants
- **Sludge from Sewage Treatment Plants:** Note that the microfibers from clothing items and microbeads from personal care products end up in wastewater. Some sewage treatment facilities do not have the capacity to filter these minuscule particles completely. This is especially true for facilities in developing and underdeveloped countries in which processes are not as sophisticated as those found in developed countries.
- **Rubbers from Vehicle Tires and Footwear:** Wear and tear from vehicle tires and footwear are also one of the sources of microplastics in the environment. **Hence, option (d) is correct.**

Q 100.B

- **Recently, India plans to release about 5 million barrels of crude oil from its emergency stockpile in tandem with the U.S., Japan, and other major economies to cool international crude oil prices.**
- Reserves are constructed in **underground rock caverns** as these rock caverns are the safest means of storing hydrocarbons.
- Global Standard for Strategic oil reserve by the International Energy Agency mandates, a country should maintain a reserve of 90 days of oil imports for strategic-cum-buffer stock purposes. **Hence statement 1 is correct.**
- Construction of storage facilities is maintained by Indian Strategic Petroleum Reserves Limited. **Hence statement 2 is not correct.**
- India has built 1.33 million tonnes of storage at Visakhapatnam in Andhra Pradesh, 1.5 million tonnes at Mangaluru, and 2.5 million tonnes at Padur (both in Karnataka). **Hence statement 3 is correct**.
  - The other three additional reserves are in pipeline at Chandikhol (Orissa), Bikaner (Rajasthan), and Rajkot (Gujrat).

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